

- Should Employees Own Shares? 65
- Danger-spot for Morale 71
- How Isotopes Can Help You 72
- Small Firm's Profits Up 1,000 per cent 78
- Productivity Bonus: How to Work It 88
- Using a Management 'Bible' 110

B U S I N E S S

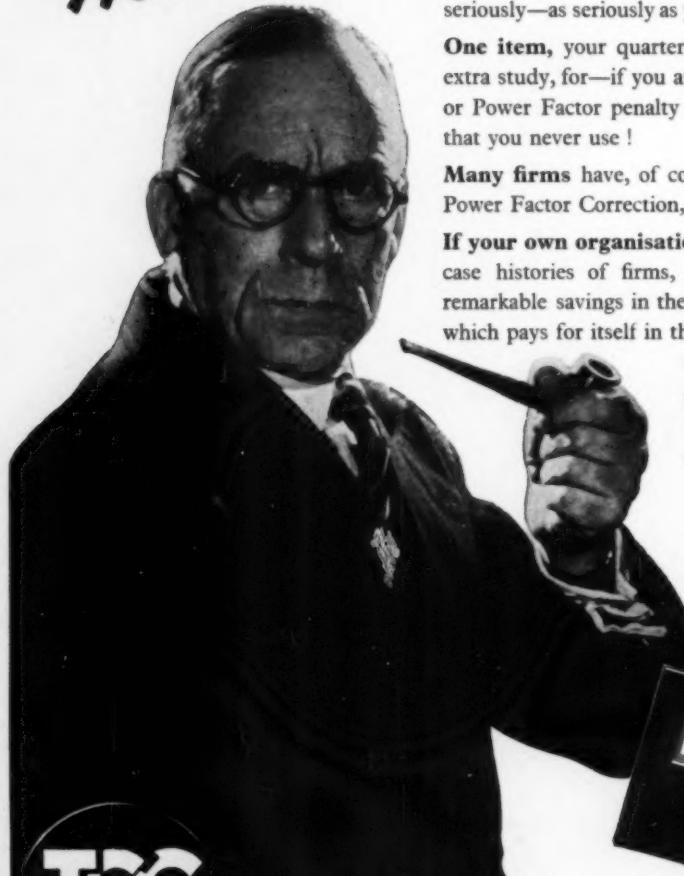
JOURNAL OF MANAGEMENT





ARE YOU A VIRGONIAN?

*Childish
Nonsense!*



You are if you were born between August 23 and September 22 (inclusive) : your solar sign is Virgo (the virgin), and consequently you may appear cold and undemonstrative, although your true nature is sensitive and capable of strong emotions. Rather unfortunately, your lucky colour is deep yellow, which does not lend itself to sartorial expression—except in ties, and, perhaps, underwear. However, your lucky day is Wednesday, which indicates a close study of the financial and/or racing columns on that morning.

Your precious stone is the sardonyx : this is simply a variety of onyx, so you would be safe in decorating either your wife or your house with the more common variety.

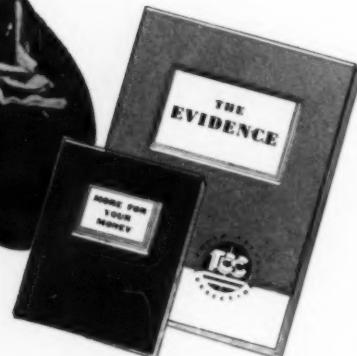
Maybe, but amusing nonsense. And, many people take astrology seriously—as seriously as you study the rising costs of production.

One item, your quarterly power bills, may well repay a little extra study, for—if you are subject to a KVA maximum demand or Power Factor penalty clause — you may be paying for power that you never use !

Many firms have, of course, already realised the efficiency of Power Factor Correction, and are now enjoying its benefits.

If your own organisation is not one of these, may we send you case histories of firms, large and small, who have achieved remarkable savings in their power costs by installing equipment which pays for itself in the first 12 or 18 months.

The facts are given in two non-technical booklets "More for Your Money" and "The Evidence" ; they will be sent free on request.



THE TELEGRAPH CONDENSER CO. LTD

INDUSTRIAL DIVISION: NORTH ACTON • LONDON • W.3 • Telephone: ACORN 0061

September 1957

B U S I N E S S

ECONOMIC PROSPECT State of the Nation 3
HOME MARKET SURVEY Scotland 11
EXPORT MARKET SURVEY Central Africa 17
MARCH OF BUSINESS 27

Should Employees Own Shares ? 65

A 'Business' Panel discusses three important questions

Feeding the Grapevine 71

Some low-paid employees have great influence on morale by P. W. S. Andrews

Can You Use Radioactivity ? 72 SCIENCE PROSPECT FEATURE

Radio-isotopes save money in many ways by Peter Spooner

Specilize....Standardize....Simplify 78

Small firm's production-sales policy boosted profits by 1,000 per cent by Stephen Rose

Conveyorized Warehouse Speeds Orders 84

Novel techniques also save space, cut handling costs

Profit-sharing Pays Management Dividends 88

Two case-studies show a new approach in action by Martin Bookham

Meeting the Challenge in Europe 95

How British firms are preparing for the Common Market by G. R. Lampton

The Way to the Top—What You Think 101

Readers comment on the 'Business' management education discussion

It's All in the Book of Words 110

How a management manual co-ordinates the work of many units by William Guthrie

New Pay System Stopped Grumbles 129

Accounting simplified by low-cost multiple-writing method by George Hamilton

More Work from Dictating Machines 133

Imaginative uses—inside and outside the office—save clerical time by Alan Peters

New Jobs for Retired Engineers 134

Ways in which their 'unwanted' know-how can be employed profitably by Keith Underwood

PEOPLE, PRODUCTS, PLACES 31

TALKING POINTS 35

MANAGEMENT AT WORK 105

BUSINESS BOOKSHELF 109

OFFICE EQUIPMENT 137

INDUSTRIAL EQUIPMENT 147

CANTEEN EQUIPMENT 152

Classified Guide to Equipment 162 Alphabetical List of Advertisers 164



COVER PICTURE

Scottish industry is in an optimistic mood. Many expansion projects are taking shape (see Home Market Survey, page 11). This month's cover shows spidermen at work on a new industrial building.

Change of subscriber's address:

Please notify Publishers six weeks before change of address is to take effect, giving present address in full and new address. BUSINESS, Vol. 87, No. 9.

Published monthly by Business Publications Ltd., registered office, 180 Fleet Street, London, E.C.4 (Waterloo 3388). 40/- a year post free U.K. and overseas.

Advertisement, editorial and sales offices: Mercury House, 109-119 Waterloo Road, London, S.E.1 (Waterloo 3388).

Are you
Au Fait ?

A director's privilege and responsibility is to make decisions. It is by the quality of these decisions that he is judged

A good decision is above all an informed one. This is where THE FINANCIAL TIMES is indispensable. In its pages, every day, all the news of finance and industry is published to help you plan your business.

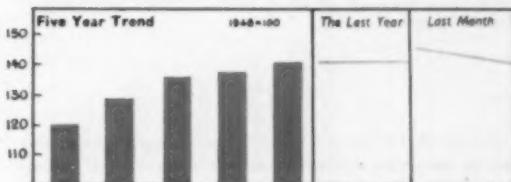
it's all in

THE FINANCIAL TIMES

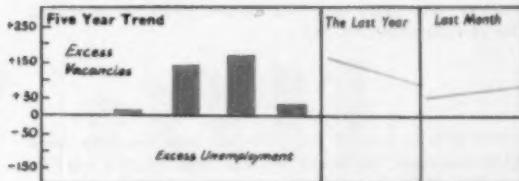
STATE OF THE NATION

Modest rise in production likely, with labour market tight • Export markets generally good, but imports rising too rapidly • Both capital and consumer expenditure will continue at a high level, with the latter rising steadily • Hire purchase credit and bank advances are likely to remain buoyant • Retail prices will continue to advance, but raw material prices are more likely to be steady or sagging

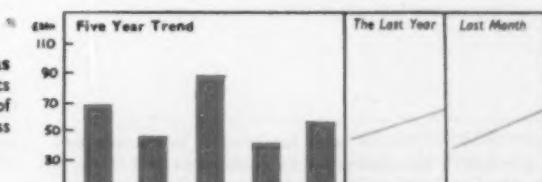
INDUSTRIAL PRODUCTION is likely to rise later in the year, though it has recently been sluggish. Provisional June, 1957, index was 139-40, a fall of 6 or 7 points on May, and coinciding with the June, 1956, figure. The March-June average was 140, a rise of 20 points on four years earlier.



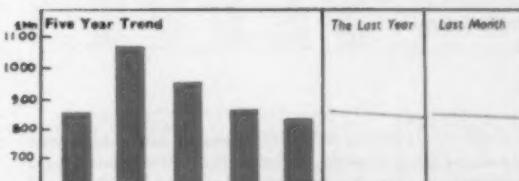
EMPLOYMENT POSITION remains tight, and is unlikely to improve in the near future. In July there were 88,000 more vacancies than unemployed—double June's figure, but 200,000 below the peak of the boom two years ago.



TRADE GAP may become worse in the autumn as imports rise. In July the excess of imports over exports was £68.8 million, a rise of £30.8 million on June and a rise of £24.7 million on a year ago. The trade gap is, however, less than during the boom of four years ago.



GOLD AND DOLLAR RESERVES have fallen, as recently forecast here. The July total was £845 million, or £5 million below June and £14 million lower than a year earlier. For the first time this year, reserves are lower than four years ago, but are by no means down to the record low of 1952.



KEY TO THE CHARTS. Except where otherwise indicated, each bar chart depicts the average monthly value of a particular statistic during the most recent three months, and compares it with the same figure for each of the four preceding years. The earliest year in each case is shown on the extreme left. Under the heading "The Last Year," a straight-line graph depicts the latest month of a particular statistic and compares it with the same month a year earlier. And under the heading "Last Month," the most recent figure is compared with the one for the previous month. In both cases, the earlier figure is to the left and the later figure to the right.

MAIN ECONOMIC INFLUENCES on the STATE OF THE NATION

1. Trends in CAPITAL SPENDING

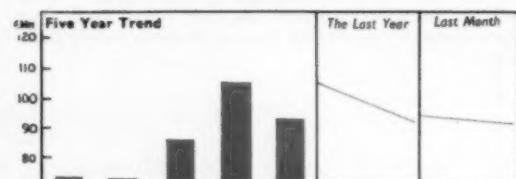
INDUSTRIAL INVESTMENT PLANS show that total capital spending is fairly steady at a high level. The Board of Trade enquiry indicates that the 1957 total will be above the level of 1956, which was about 20 per cent above 1955 and about 75 per cent above 1952.



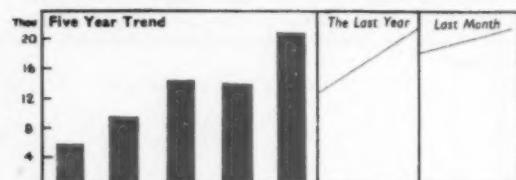
FACTORY BUILDING APPROVALS have risen again but are unlikely to reach the 1955 boom proportions. In the second quarter of 1957, total area approved was 18.8 million sq. ft., a rise of 5.1 on the first quarter and a rise of 4.5 on a year earlier. Present level is double that of four years ago.



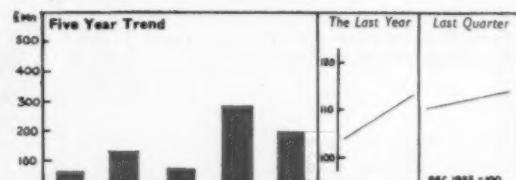
MACHINE TOOL ORDERS are rising slightly, but not so much as deliveries, so order books are falling. Total outstanding in May were £91.5 million, a fall of £1.7 million on April and a fall of £13.3 million on a year earlier. The present level of orders remains about £20 million above the level four years ago, both output and exports setting new records so far this year.



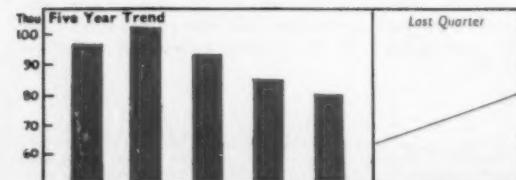
INDUSTRIAL HIRE PURCHASE has recently been fairly buoyant. The Board of Trade index for June was 145, a decline of 28 points on May and 58 points above a year earlier. The accompanying chart is based on hire purchase contracts for new cars and commercial vehicles. It shows more than a two-fold rise in the last four years.



MATERIAL STOCKS have lately risen in manufacturing industry but decreased in commerce and Government. The Board of Trade index for manufacturing stocks at the end of the first quarter of this year was 114.6, a rise of 4.7 on the previous quarter and a rise of 10.7 on a year earlier. Non-manufacturing stocks fell by about 11 per cent during the first quarter.

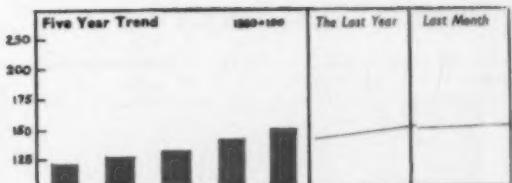


HOME BUILDING STARTS remain fairly high but are decreasing slightly, as expected. Permanent houses started in the second quarter of 1957 totalled 80,000, a fall of 5,300 on a year earlier, and 19,900 on three years earlier. Number under construction at June was 255,900, a fall of 31,300 on a year earlier.



2. Trends in CONSUMER SPENDING

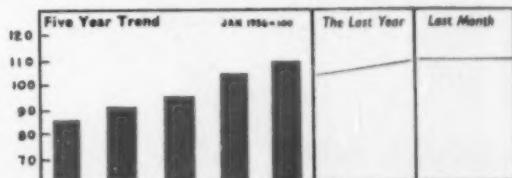
RETAIL SALES outlook remains very good. The June index was 153, 1 point higher than May (though it is usually lower), 9 points higher than a year earlier, and 32 points above the index level four years ago.



DOMESTIC HIRE PURCHASE has recently been at a very high level. But the latest available index, for June, was 71, a fall of 3 points on May, though 6 points above a year earlier. The accompanying chart, based on used car contract figures, shows the extent of the boom in recent years.



WAGE RATES are levelling off seasonally, prior to the new round of claims. The June index was 111—as was the revised figure for May. There has been a rise of 24 points over the last four years.



PERSONAL EXPENDITURE is likely to rise still further. In the first quarter of 1957 the total was £3,192 million, a fall of £400 million on the Christmas quarter but over £100 million more than a year earlier, and over £600 million more than four years earlier.

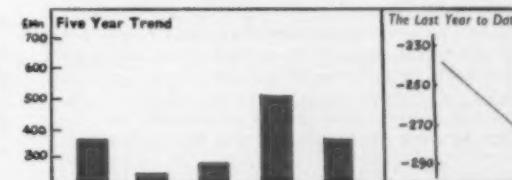


3. Trends in PUBLIC SPENDING

PAYMENTS FROM EXCHEQUER so far this year are nearly £80 million above the same period last year. Rising costs are likely to make it difficult to keep expenditure down to the Budget estimate, which was slightly below last year's total. In the last five years Government expenditure has risen by 5 per cent in real terms, after allowing for price increases.

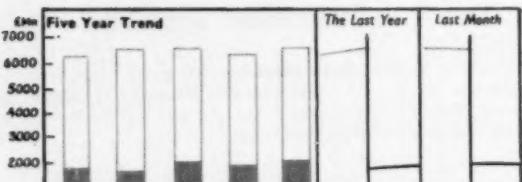


EXCHEQUER DEFICIT to date is about £40 million more than at the same time last year. Revenue has been rising, but not as fast as expenditure. However, in present buoyant business conditions the "tax gathering" season in the New Year may well see the anticipated Budget surplus of £46 million exceeded. Chart bars show annual surpluses.

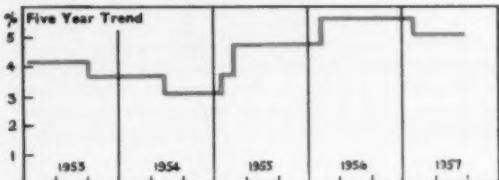


4. Trends in CREDIT POLICY

BANK DEPOSITS AND ADVANCES have been high recently. Total July deposits were £6,501 million, a rise of £263 million on a year earlier. July advances were £1,992 million, a rise of £62 million on a year earlier.

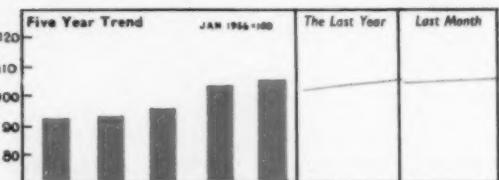


BANK RATE at the time of going to press remains at 5 per cent. It could be moved slightly upwards if talk of inflation continued. The accompanying chart shows movement of Bank Rate in recent years.

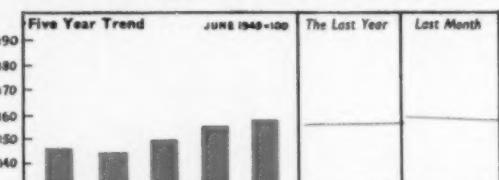


5. Trends in MARKET PRICES

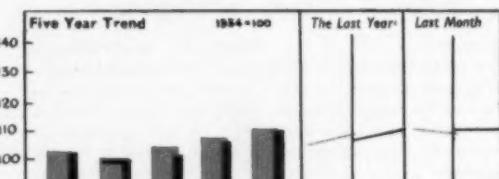
RETAIL PRICES are still rising, a trend which is likely to continue. The July index was 106.6, a rise of 0.9 on May and a rise of 4.6 on a year earlier. There has been a 14½ point rise in the last four years.



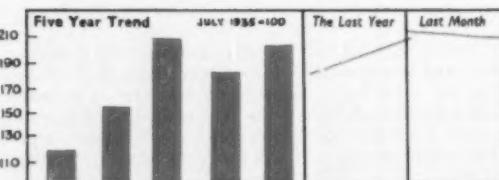
RAW MATERIAL PRICES still show no signs of levelling off from their three-month fall. The July index for basic materials widely used in industry was 154.8, or 1 point below June, but 0.7 above the previous year's level. Prices have risen 11 points in the last four years.



TERMS OF TRADE are still improving, with import prices falling and export prices steady. June import price index was 109, 1 point less than May, but 4 points higher than a year ago and 8 points higher than four years ago. June export price index was 110, as for May, but a rise of 4 points on a year earlier and 10 points on four years earlier. (Import prices are shown in colour, export prices in black.)



SHARE PRICES have declined from their recent boom peak due to the prospect of economic cuts and restrictions. At the time of going to press the *Financial Times* index of industrial ordinary shares is around 193, about 7 points lower than a month earlier, but 17 points higher than a year earlier and about 79 points higher than four years earlier.





“We have a Pension Scheme already”

Of course. Who hasn't? But does your scheme still perform the functions for which it was originally intended? Does it provide adequate benefits? Does it cover all the Company's permanent employees? Is it still value for money now that the Finance Act 1956 has reached the Statute Book? Pension schemes don't stand still. If they are not reviewed from time to time they soon lose touch with current needs.

You may be in need of expert advice after all. From Noble Lowndes you can obtain an independent and impartial review of your present pension arrangements without cost or obligation—by writing to

The Noble Lowndes Pension Service

38 LOWNDES STREET • LONDON S.W.1 • TELEPHONE: SLOANE 3465 (15 LINES)

*Branches and
Associated Companies
at Home and Overseas*

BRITISH ISLES

Belfast, Birmingham, Bristol, Cardiff, Dublin, Glasgow, Hull, Leeds, Liverpool, Manchester, Middlesbrough, Newcastle-on-Tyne, Nottingham, Romford and Sheffield

OVERSEAS

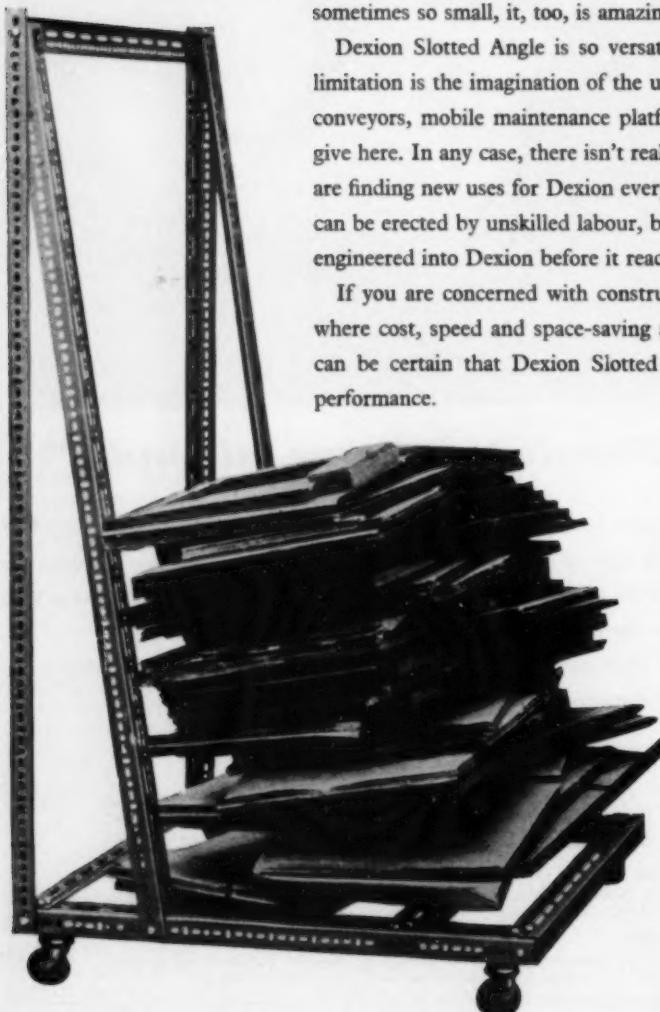
Auckland, Capetown, Durban, Johannesburg, Nairobi, Salisbury and Sydney.
Also represented throughout Canada and the United States of America.

It's amazing what you can do with

AMAZING is just the right word. It's certainly no exaggeration. For this versatile material, with just a little human assistance, is capable of some quite remarkable feats of construction. And at a price which is sometimes so small, it, too, is amazing!

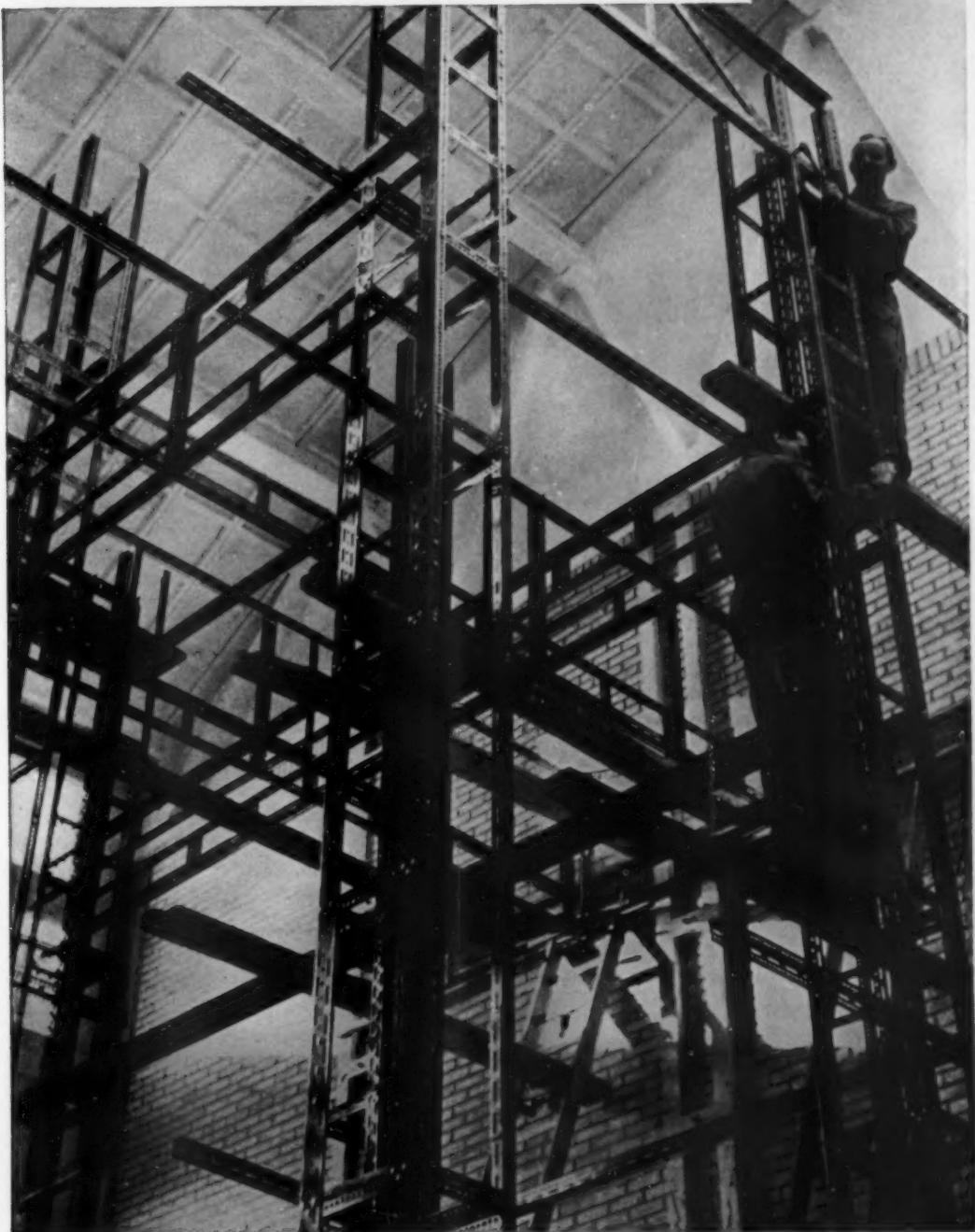
Dexion Slotted Angle is so versatile it is true to say that its only limitation is the imagination of the user. Storage racks, work benches, conveyors, mobile maintenance platforms—the full list is too long to give here. In any case, there isn't really a complete list, because people are finding new uses for Dexion every day. And most of the structures can be erected by unskilled labour, because 80% of the work has been engineered into Dexion before it reaches the customer!

If you are concerned with constructional problems, large or small, where cost, speed and space-saving are important considerations, you can be certain that Dexion Slotted Angle will delight you with its performance.



DEXION LIMITED • MAYGROVE ROAD • LONDON N.W.6 • MAIDA VALE 6031 (21 LINES)

DEXION slotted angle





rod pole... & search!

The man up the pole is Archie. He is looking for Smith, his area sales representative. The manager of a large fruit bottling firm—due to sail on a three months trip to South Africa this evening—has just telephoned Archie offering him a plum contract. Smith could close the deal in five minutes—if only Archie could put his finger on him!

A word in your ear Archie. Come down from that precarious perch and contact Pye Telecommunications. They will give you actual examples of how Pye Mobile Radio has doubled efficiency and cut costs by keeping everyone in constant touch, in every kind of business from the large industrial and commercial concern to the small private firm... to fire, police, ambulance and municipal services throughout the world.

Remember, Pye is the only firm of its kind having over 50 fully equipped service vans radio-controlled from 21 depots all over Great Britain to give you on-the-spot repair and maintenance. More than two-thirds of the equipment used in Britain is supplied by Pye.



Telecommunications

THE SHORTEST DISTANCE BETWEEN TWO POINTS



PYE TELECOMMUNICATIONS LTD · NEWMARKET RD · CAMBRIDGE · ENGLAND · Phone: TEVERSHAM 3131 Cables: PYETELECOM CAMBRIDGE

HOME MARKET SURVEY

A Round Britain Survey: Regional Notes on Markets and Industrial Developments

SCOTLAND

A MOOD of optimism prevails, particularly in the heavy and capital goods industries and among producers of electronic equipment, machine tools and petroleum chemicals. A number of major engineering capital investment schemes are coming to fruition and many new expansion projects are under way.

Consumer specialities like whisky continue in worldwide demand. Scotch distillers are now exporting over 15.5 million gallons annually, compared with 10 million gallons before the war; the figure for 1956 was 1 million gallons higher than in 1955. Schenley Industries, the U.S. distilling concern, who last year acquired Seager, Evans and Co., are extending their initial investment of £3.2 million to some £11 million. Their expansion programme aims at the attainment of a leading position in the market for Scotch whisky and involves extensions of the new grain distillery of Strathclyde Distillers Ltd. and of the malt whisky capacity of Glenugie Distillery Ltd., and the construction of two new malting distilleries in Moray.

Although the current shortage of technical staff and skilled workers poses a problem and competition in overseas markets is intensifying, firms generally are viewing the future with confidence. With busy conditions prevailing, producers of Scottish tweed are feeling the handicap of labour shortages and the new U.S. tariff quota system. Exports, which last year constituted an all-time record for the industry, are booming in North America, Scandinavia and Western Europe.

A high level of efficiency is being reached in the Dundee jute industry as a result of the large-scale modernization programme undertaken in post-war years. Since 1945 nearly £10 million has been spent on re-equipment: £7.8 million on plant and equipment and the balance on buildings. Last year capital expenditure by spinning mills totalled over £1.4 million, and by weaving factories over £500,000. In weaving, the number of automatic looms now represents one-third of the total looms in operation, and five firms have special weaving sections equipped with circular looms. Jute labour productivity has increased by 42 per cent since 1949.

Good progress is being made in Scottish linen industry research. The new Arthur D. Little Research Institute, which has been set up at Inveresk Gate, near Musselburgh, in laboratories previously occupied by the Institute of Seaweed Research, is now working on eight projects for U.S. sponsors. Cost will be around

\$300,000 annually.

As a result of reorganization at the Brechin works of D. and R. Duke, linen and other textile producers, a number of improved methods have been put into operation and labour productivity has been increased. Weavers are tending 20 looms instead of the previous eight. Reorganization of spinning at the Ferguslie Mills of J. and P. Coats Ltd., thread manufacturers, will be completed by June next year, and yarn production will then be available entirely from post-war plant or extensively over-hauled pre-war machinery. The new winding flat at Ferguslie, which has already commenced production, will be in full operation by the end of 1958. A gradual conversion of twisting machinery to higher speeds is being undertaken, and at Anchor Mills a major reorganization of certain wet process departments is to be put in hand over the next few years.

Last month—exactly on schedule—the blast furnace was lit at the new integrated steel mill of Colvilles Ltd. at Ravenscraig, some 15 miles south-east of Glasgow. The plant, which has taken about two and a half years to erect at a cost of £22.5 million, will turn out steel at an annual rate of 400,000 ingot tons. Ore is brought to the works from a new £2.5 million unloading terminal at Glasgow docks, designed to handle 1.6 million tons of ore a year.

This company, Scotland's largest steel producers, are planning to bring their annual ingot capacity up to



The vertical line at 100 represents the national average level of retail trade for the latest month (June). Against this average the performance of each region may be measured



The Dictabelt gives you fully visible recording—**YOU ALWAYS KNOW EXACTLY WHERE YOU ARE!**

THE DICTABELT is the unique dictation record of the Dictaphone Time-Master dictating machine.

- Dictation is always completely visible
- It cannot be erased
- It is easy to find your place

For more facts, write to the Dictaphone Company Limited, 17-19 Stratford Place, London W.1

Dictaphone TIME-MASTER

THE WORLD'S MOST MODERN DICTATING MACHINE



The words DICTAPHONE, TIME-MASTER and DICTABELT are registered trade marks

Branch Offices: BELFAST, BIRMINGHAM, BRISTOL, CORK, DUBLIN, EDINBURGH, GLASGOW, LEEDS, LIVERPOOL, MANCHESTER, NEWCASTLE

ECONOMIC PROSPECT

2.5 million tons over the next five years, at a total cost of £32 million. Assurances have been received from the N.C.B., Scottish Area, that adequate supplies of coking coal will be available in due course for a second blast furnace at Ravenscraig. The cogging mill at Dalzell is to be replaced by a larger mill at Ravenscraig, and the present plate mill at Dalzell will then be replaced by a high production four-high plate mill. As a result of extensions and electrification, capacity of the group's Glengarnock Works has been increased by 1,500 tons per week. A new four-high plate mill is to be installed at Clydebridge Works.

An augmented supply of casing and linepipe is now coming from the new rotary forge tube mill at the Clydesdale Works of Stewarts and Lloyds Ltd. A second stand for this mill, now under construction, should be completed by next January and will increase capacity to almost twice the present rating. Bairds and Scottish Steel are building two new blast furnaces, and William Beardmore are converting from open hearth to electric arc furnaces.

Clyde shipbuilders can look forward to an active period for some time to come. On their books are orders for more than 500,000 tons gross of new shipping, including 21 tankers, 20 cargo vessels, five ore carriers and 35 miscellaneous craft. A notable step is the formation of the Hawker Siddeley-John Brown Nuclear Construction Co. with a capital of £500,000, and it is possible that an atomic-powered 65,000 ton oil tanker may be built at Clydebank.

John Brown are to build a 28,000 ton passenger liner for Cunard: the keel will be laid in the autumn of next year. They are among several builders who have plans to enlarge their berths to take bigger vessels. Lithgows, of Port Glasgow, are to manufacture free-piston gas generators and have formed a new company, Lithgow Power Development Co., for that purpose.

Long-term plans include the establishment of a £7 million Clyde graving dock capable of taking the largest tankers, and also a £750,000 fitting-out basin in the lower reaches of the Clyde to deal with tanker engineering and repair. Now in operation is an international VHF public radio-telephone service enabling passengers of ships on the Firth of Clyde to be connected with telephone subscribers anywhere. Nearing completion is the shipyard modernization scheme undertaken by Caledon Shipbuilding and Engineering at a cost of over £380,000.

A start has been made on the £6 million Clyde road tunnel, and work will begin on the £14 million Forth road bridge next spring. Construction time is expected to be over five years.

Since moving to their new factory at Tannochside, Uddingston, in the spring, Ranco Ltd. have considerably increased the size of their labour force. A peak staff of 1,600 is envisaged, and there should be a further

BUSINESS



ALL TOGETHER NOW...



How very much better a staff pulls its weight when linked by TR Services.* They don't walk about seeking information, or waste the telephone operator's time and hold up outside calls by using the G.P.O. telephone for internal calls; they don't have to wait for people who can't be located—or go to look for them. There's no more starting by the slowest clock and stopping by the fastest . . . and much more besides. By providing conditions for speeding work TR Services save pounds in the course of a year and undoubtedly pay for themselves. It will pay any Company—your Company—to look into them... do it by sending for full information today!



*TR Services include: Internal Telephones, Internal Broadcasting, Staff Location, Time Control, Watchman Protection, Fire Alarms, Centralograph.

22, Kent House, Rutland Gardens, Knightsbridge, London, S.W.7
Telephone: KENsington 9201

Keep in touch with



When you want to say

"Well Done!"

Say it with a Midland Bank Gift Cheque. You will add immensely to the value of your tribute, yet the cost will be so very little more. For the small sum of 1/- (plus the amount you want to give) you can offer your congratulations in a form which really rises to the occasion and becomes a permanent memento of it. Anyone can buy Midland Bank Gift Cheques at any branch of the Midland Bank; and if you would like to know more about this colourful new banking service ask for the Gift Cheque leaflet at branches or from the address below.



To mark the occasion, give
**MIDLAND BANK
GIFT CHEQUES**

*Also available:
Gift Cheques for Birthdays, Weddings and Christmas*

MIDLAND BANK LIMITED • HEAD OFFICE: "POULTRY", LONDON EC2

ECONOMIC PROSPECT

production increase of 50 per cent in the foreseeable future. The company, who manufacture **thermostatic controls** and specialist switches, are now turning over their press shop to fully-automatic processes and have formed a new section to develop special-purpose machinery. A completely new conveyor system has been installed.

The new £3 million Garscadden factory of the Good-year Tyre and Rubber Co. is nearing completion. Claimed to be the most modern tyre plant in Europe, it is situated on a 58-acre site. Layout of the factory has been planned to enable it to be expanded to four times its initial size.

Scottish Cables Ltd., Deanside, Renfrew, are planning to build new laboratories and technical offices. They have already moved into new administrative offices and have nearly completed the equipping of their new factory for the production of plastics **cables**. James Scott and Co. (Electrical Engineers), of Glasgow, are actively developing the **electronic** equipment side of their business and are carrying out a reorganization of the electrical contracting and motor engineering concern of Malcolm and Allen Ltd., which they have acquired.

Cockburn, of Cardonald, Glasgow, have expanded their factory space by 40,000 sq. ft. to meet increasing export demand for their **steam valves** and control gear. The new extension to the East Kilbride works of Mavor and Coulson Ltd. will be in production this autumn. The firm are also to expand their main factory in Redan Street, Bridgeton.

Euclid (Great Britain) Ltd. are adding another 100,000 sq. ft. to their Newhouse, Lanarkshire, plant with a view to producing large-size crawler tractors, 25-ton capacity rear dump trucks and 24-cu. yd. capacity motorized scrapers. The firm's associated company, Peterhead Gear Manufacturing Co., are expanding their Peterhead, Aberdeenshire, works at the same time to step up the output of gear boxes for these products. Several hundred new jobs will, as a result, be available.

British Polar Engines are carrying out a £200,000 extension programme at their Govan, Glasgow, works for the manufacture of their 'T' size **engine** giving 400 h.p. per cylinder up to 4,000 h.p. Railway coach production is being carried on in a new 120,000 sq. ft. extension to the Linwood, Paisley, factory of the Pressed Steel Co.

North British Locomotive Co., of Glasgow, are continuing to expand the range of their manufactures other than locomotives. They are now engaged in the production of **pipelines** for the North of Scotland Hydro Electric Board and also a number of fabricated pressure vessels for oil refineries. It is hoped to expand this side of the business to replace the surplus capacity in the firm's boiler shops which was previously occupied in the manufacture of boilers for steam locomotives.

INDUSTRIAL PRODUCTIVITY

can be increased by the introduction of fresh capital to carry out the necessary re-equipment and re-organisation. I.C.F.C. provides long-term loans and share capital to industrial and commercial enterprises in amounts from £5,000 to £200,000.

Proposals can be considered from new ventures which are soundly conceived and adequately sponsored.

Our booklet, D.5, 'Capital for Business and Where to Find it', will be sent on request.



Industrial & Commercial Finance Corporation Limited

Head Office: 7 Drapers' Gardens, London, E.C.2. Tel: NATIONAL 8621/5

BRANCHES:

Birmingham - 214 Hagley Road, Edgbaston 4181
Leicester - 51 Friar Lane, Granby 854
Manchester - 75 Whitworth Street, Central 5429
Leeds - Headrow House, Leeds 22727
Edinburgh - 53 Charlotte Square, Edinburgh 30212

**“....but the BOLTON EVENING NEWS
has much more
influence with
Bolton women-
folk...”**



• SO SAYS MR. G. A. WHITEHEAD
Managing Director of Bolton's
largest Fashion and Fur Store

• BOLTON
EVENING NEWS
ABC DAILY NET
SALES JAN-DEC
1956

85,100
RATEPERS.C. INCH
24/-

• BOLTON
EVENING NEWS
readership
and Marketing
Survey

These facts and figures
and buying habits of
B.E.N. readers con-
tained in this survey
substantiate Mr.
Whitehead's state-
ment. Send for one
today.

“The fact that you are backing this with National Advertising doesn't greatly influence me to stock your goods. My customers are women, mainly Boltonians, and I know that they are influenced more by the Bolton Evening News than any other paper. 9 out of 10 Bolton people read the B.E.N., 106,000 of them being the fair sex. Now give me backing with publicity in the paper we know influences their buying and I'm interested—very interested.”

TILLOTSONS NEWSPAPERS LIMITED

MEALHOUSE LANE • BOLTON • LANCS
Tel. Bolton 1993. Advert Manager: Wm. Sheppard

6 ARLINGTON STREET • LONDON • S.W.1
Tel. GRO 5220. London Manager: C. A. Miles

EXPORT MARKET SURVEY

A Round-the-World Survey: Country by Country

THE CENTRAL AFRICAN FEDERATION

WITH copper now being quoted on the London Metal Exchange at less than £210 per ton, Rhodesian producers might well be excused for looking back wistfully to the peak period of March last year when the price of the metal was more than twice that figure. But—typical of the forward-looking spirit of the Central African Federation—the mines are continuing with their plans for expansion.

Although the Roan Selection Trust group have cut back production by 10 per cent, other Northern Rhodesian mines are continuing output at the existing rate. When Kariba power becomes available in 1961, it is estimated that RST output may increase annually by 80,000 tons through expansion at Mufulira West and other development planned at Chambishi. Rhodesian Anglo-American, with their new Bancroft mine, have similar prospects for higher output: a total of 85,000 tons is projected by 1960.

What happens in the Copperbelt is of vital importance to the Federation's economic outlook, for copper is currently responsible for nearly 60 per cent of Rhodesian exports. From the known reserves of ore at least 15 million tons of copper can be obtained. When coal, asbestos, lead, zinc, cobalt, chrome and gold are included, the Federation's mineral output is about half the total of South Africa's and worth over £130 million a year.

Development schemes are in hand at the Cam and Motor gold mine. A number of promising new deposits have been discovered—nickel in Southern Rhodesia, bauxite in Mlanje mountain in Nyasaland, coal in the Shire Valley and pyrochlore carbonatites 150 miles east of Lusaka.

Output at Wankie Colliery has been doubled in the past five years, and the current production rate of 5 million tons a year can be maintained for the next 100 years, without touching an additional reserve of over 100 million tons which is capable of being worked by open-cast methods. The possibility of establishing an oil-from-coal industry on the Lubimi coalfield is now being explored jointly by Wankie and Rhodesian Anglo-American. A 50 years' supply exists there of extractable coal suitable for gasification.

The rapid rate of economic expansion in the Federation (imports have risen from £26 million in 1946 to around £160 million) has thrown a great strain on the

country's rail system. Under the current three-year development programme, some £30 million has been earmarked for communications and transport, including £17 million for railway expansion in Rhodesia and £500,000 in Nyasaland.

By 1959 nearly £10 million will have been spent on the purchase of new locomotives and rolling stock. Gloucester Railway Carriage and Wagon Co. are fulfilling a contract for 88 passenger coaches, valued at £1.5 million, and Beyer Peacock are supplying 46 Beyer-Garratt steam locomotives, a repeat order following the success of 15 similar engines built by the firm for Rhodesian Railways in 1954. A centralized traffic control system is to cover the 1,250-mile line from Umtali to Ndola by 1960; this will improve the carrying capacity of the existing track by one-third. Contracts worth £4 million in connection with this scheme have been let to Metropolitan Vickers-G.R.S., Siemens and G.E.C., and Westinghouse Brake and Signal Co.

Two projects now under consideration could prove of considerable benefit to the Federation. The first is the proposed £28 million trunk road from Cape Town to Nairobi. When completed, this would enable Rhodesia—which is aiming to become the manufacturing centre of Africa—to reach the 20 million population of Kenya, Tanganyika and Uganda. The second is the plan for a 2,000-mile trans-African oil pipeline from Mtwara in Tanganyika to Walvis Bay. It would cost £200 million, and the suggestion is that local crude oil requirements might be tapped at Lusaka and an oil refinery installed there when justified by local demand.

Progress is being made on the agricultural front. At last November's Salisbury tobacco auctions, sales reached a record of 172 million lb. in weight and £23.6 million in value, an increase of £2.5 million over the 1955 figure, which was also a record.

Advances, too, are being made in industry. Agreement to denationalize the Rhodesian Iron and Steel Commission was signed last February, and the assets were transferred to a new company sponsored by U.K. steel concerns and Rhodesian and South African mining and finance companies. An £8 million development scheme has been drawn up by the Lancashire Steel Corporation and is to be supervised by them and by Stewarts and Lloyds. To be completed within five years is a plant capable of providing 150,000 tons of steel

TACK

PERSONAL TRAINING COURSES

mean more sales at less cost . . .

More and more of Britain's biggest companies are taking advantage of TACK Personal Sales Training. Whether their salesmen are new or seasoned . . . their marketing problems straightforward or complex . . . top-flight executives have proved for themselves that TACK Training helps positively to increase sales turnover at lower cost . . .

. . . regardless of product or service!



*F. B. Roberts,
Grocery Market-
ing Manager of
THE NESTLE
COMPANY
LTD. — famous
producer of qual-
ity-food products
— has this to say:*

"For five years, we have used the TACK Course to augment our own sales training programme. Their commonsense training is considered most suitable for a company which depends upon repeat business."



*From
SMITHS
CLOCKS &
WATCHES
LTD.
World's largest
manufacturers of
Clocks, Watches
and Precision In-
struments, comes
this statement by
Marketing Manager,
L. J. H.
Parker:*

"Our representatives attended your course just over a year ago. As last year was an excellent one for this Company, there is no doubt that the refreshing and invigorating ideas you gave us played an important part."

These are just samples of the hundreds of firms who have proved for themselves that TACK-trained men are good for their businesses! It's the reason each year 2,500 salesmen and sales executives attend TACK Courses. May we send details of how we could help your company?

- *Tack Course in Salesmanship and Human Relations—3 days*
- *Tack Course in Sales Management—2 days*

THE **TACK** ORGANISATION

1-5 LONGMORE STREET, LONDON, S.W.1
Vic. 5001-4



annually and some 500-600 tons of pig-iron weekly. Present output of the Riscom works at Que Que is approximately 50,000 tons a year. The new installations will have a stimulating effect on the extension of light industry generally.

Rhodesia's economic growth is not only dependent on an improved transportation pattern; it needs a continuing influx of investment capital and the assurance of expanding power supplies. It is in this context that the full significance of the Kariba project can be judged. By 1970 it is estimated that the Federation's electricity requirements will be about 1 million kW above the present level, and this power will be provided by Kariba at an only slightly higher investment cost than if additional thermal stations had been built.

First stage of the scheme will cost £80 million, and involves the construction of a dam across the Kariba Gorge and the formation of the largest man-made lake in the world. An underground power station with five generators is to be built, and a grid will inter-connect the main load centres in the Federation. One line will run north to Kitwe; another south to switching stations at Norton and Umnati, and from there to Bulawayo and Salisbury.

Although the two main contracts were secured by Italian interests, orders worth more than £40 million in all have gone to British firms for the first phase of the scheme. Over £2 million worth of switchgear is being supplied by B.T.H., and other electrical plant is being provided by Met-Vick, English Electric, Reyrolle, Ferranti and British Insulated Callender's Cables, whose contracts alone are worth £3.5 million.

The Kariba scheme will give a great impetus to other projects: it is calculated that capital expenditure in industry and other development may amount to over 10 times the cost of the scheme itself. The Kafue, Luangwa and Shire rivers (major tributaries of the Zambezi) also hold considerable hydro-electric potentialities. An £80 million irrigation and power scheme is projected in the Shire Valley; this would enable a number of new industries (aluminium, wood pulp, fertilizers, ethyl alcohol and cotton) to be set up.

Although the European population has, in fact, trebled since 1946, it is by no means the only consumer market in the Federation worth tackling. The native population is now some 7 million strong and, with the trend towards urbanization, it has become a buyer of such goods as sewing machines, kitchenware, gramophones, footwear, medicines and packaged foods.

This trend will be strengthened with the growth of electricity supplies and as African farming is gradually transformed from a communal to a yeoman farmer pattern.



BLICK TIME RECORDERS



BLICK FACTORY ATTENDANCE TIME RECORDERS



BLICK TIME STAMP

For time-and-date-stamping forms, correspondence or documents.



BLICK JOB-TIMER

The best Cost System in the World is useless unless it is based on accurate times.



BLICK 'STAFSINE'

This Signature-type Time Recorder is widely used in offices and small works where clocking is under no supervision.

SOME OTHER TYPES OF BLICK TIME RECORDERS



MAURICE HIGH

WE BELIEVE IN PERSONAL SERVICE

If you have a problem—why not write or telephone to Maurice High, our Sales Office Manager? He has spent twenty-five years in the Time Control industry and will be only too pleased to give you expert and helpful advice.

And with a range of equipment embracing every worth-while development in current production there is little doubt he will be able to tell you the most effective and economical way to meet your particular problem.

Why not telephone Monarch 6256 Ext. 5? The answer to your difficulty could easily be as simple as that.

BLICK TIME RECORDERS LTD., 96 ALDERSGATE STREET, E.C.1

PHONE: MONARCH 6256

Call in the ACME ORGANISATION

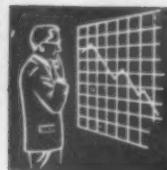
if



You are planning a new sales campaign



You are launching a new product



You are worried about your sales curve



You are not satisfied with your point-of-sale advertising

ACME, the country's greatest designers and producers of all types of point-of-sale material, have proved repeatedly that they can make a vital contribution to national sales campaigns.

Get in touch with us today

ACME SHOWCARD AND SIGN COMPANY LTD.

PARAGON WORKS • GREEN STREET • ENFIELD • MIDDLESEX • TELEPHONE: HOWARD 1651

**SHOWROOMS: 9 SOUTH MOLTON STREET • LONDON W1 • Telephone: GROsvenor 7458
Crown Buildings • James Watt Street • Birmingham 4 • Telephone: Central 2325
25 Wellington Street • Glasgow C2 • Telephone: City 0822**
Resident Representative in Manchester



Butter on both sides!



Bread-and-butter is such an accepted part of our lives that we might be excused for taking it for granted. Only when it has some extra quality does it penetrate our consciousness. When, for instance, we discover a piece which has *butter on both sides*.

It is often such seemingly trivial extras which give life its stimulus. Like taking out the usual bread-and-butter Life or Endowment policy with Legal & General and finding that, because it is "with profits", a generous annual addition comes along.

LEGAL & GENERAL

ASSURANCE SOCIETY LIMITED

CHIEF ADMINISTRATION:
188 Fleet Street, London, E.C.4. Telephone: CHAncery 4444



BUSINESS



ARE THE WORKERS FEELING S-T-R-A-I-N-E-D



COLOUR ADVISORY SERVICE



FATIGUE IN THE FACTORY is frequently caused by eye-strain—even though the worker may be unaware of it. Walls painted in dark colours do much to defeat the best efforts of the lighting engineer. They are also depressing to morale.

Seeing conditions can be much improved by *planned colour*. Walls painted in cheerful tints, machines which contrast well with the work being done, do more than help the worker to see better. They reduce fatigue caused by eye-strain, give a lusty boost to morale. Improvements both in quality and in output may be expected.

'Colour Conscription for Industry' will quickly show you how to make paint go to work—to your own and your employees advantage.

May we send you a copy?

How could our Colour Advisory Service help you? First, an artist trained in the principles of Industrial Colour Planning would survey your premises. Then colour drawings would be submitted, for approval and further discussion. This service is quite free, places you under no obligation. Let us discuss your next painting programme with you.



BRITISH PAINTS LIMITED

PORTLAND RD., NEWCASTLE-ON-TYNE, 2 · CREWE HOUSE, CURZON ST., LONDON, W.1
SYDNEY · ADELAIDE · TORONTO · DURBAN · CAPE TOWN · CALCUTTA · TRINIDAD · NEW YORK

OUR WORLD-WIDE SERVICE IS AT YOUR DISPOSAL FOR THE ASKING



TOO GOOD TO BE TRUE? We are willing to prove these words too true to be ignored.

By switching to Primus Continuous Stationery you can save 1 hour in every 3 spent on invoicing, works orders, goods received orders, purchase orders and similar repetitive typing.

A Primus system designed for your needs and operated on your existing machines will enable your typists to type continuously without wasting time making up, inserting and removing sets of forms. Output will rise. Errors will diminish. Overheads will be substantially cut.

Seeing is believing. Contact us now. We shall be glad to show you *in your own office* what Primus can do.

**50% more
typing
without
extra
staff**

PRIMUS

continuous stationery

A PRODUCT OF

CARTER-DAVIS LTD.

QUEEN ELIZABETH STREET, LONDON, SE1. HOP 5344 (5 LINES)

BRANCHES IN BELFAST • BIRMINGHAM • BRISTOL • DUBLIN • EDINBURGH • GLASGOW • LEEDS • LEICESTER • LIVERPOOL • MANCHESTER • NEWCASTLE

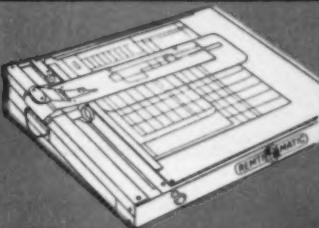
Use REMINGTON 'Know-how' to solve your accounting problems

Is your Accounts Department fully up-to-date? Why not take advantage of the Remington 'know-how'? This 'know-how' is unique, in that it enables British businessmen to profit from world thinking and experience. For Remington Rand, London, is the clearing house of the latest ideas in business systems and techniques, collated from plants and laboratories and field experience in 41 countries, developed and adapted to British needs.

This is why Remington Rand alone can offer so wide a choice of the most advanced Accounting Machines, each the result of world research and testing. One of them is certain to be made-to-measure for *your* business. To find out which it is send for the Man from Remington Rand. He will survey your accounting problems and suggest the practical solution—without obligation.



REMOFIX is adaptable to every accounting operation; fully electrified, it performs its computations automatically.



REMIMATIC brings mechanised principles to any manual accounting operation—simply and inexpensively.



TRB 99 PRINTING CALCULATOR gives printed proof of accuracy of any operation involving addition, subtraction, multiplication or division.

Also available are FRONT FEED TYPEWRITERS, where the accounting needs do not warrant an accounting machine, and STERLING ADDERS to suit every adding/listing application.



Send for the Man from

Remington Rand

POST THIS COUPON FOR FURTHER DETAILS

I am interested in Remington Rand accounting and should like further details.

NAME POSITION

ADDRESS

AC14

Remington Rand Limited • Business Equipment Centre • 1-19 New Oxford St • London WC1 • Tel: CHA 8888

Be Shelf
sufficient!



The illustrations show the Rubery Owen Steel Shelving installation at the Abbey Works Stationery Stores of The Steel Company of Wales, Port Talbot—light and easy to erect, easy to clean and strong enough to bear quite heavy loads.



Has your stores department complete accessibility and maximum capacity in the space available? Rubery Owen are the people to achieve just this for you with their wide experience and completely flexible outlook on design. We supply open and closed shelving, ledge type, mobile shelving and multi-tier shelving, to suit varying storage needs. Discuss your storage requirements with us and you'll get what you really need!

SLOTTED ANGLE, TOO!

"OWEN-Angle", the newest slotted angle, is now on the market. The fastest constructional angle with the least effort. Strong, versatile, universal in its application.

Whatever the equipment, the simple structure for the workshop, storage racking, even building, 'OWEN-Angle' will do the job quickly and efficiently. In three sizes, together with various accessories, shelves, casters, hinges, etc.

Write for our latest leaflet.

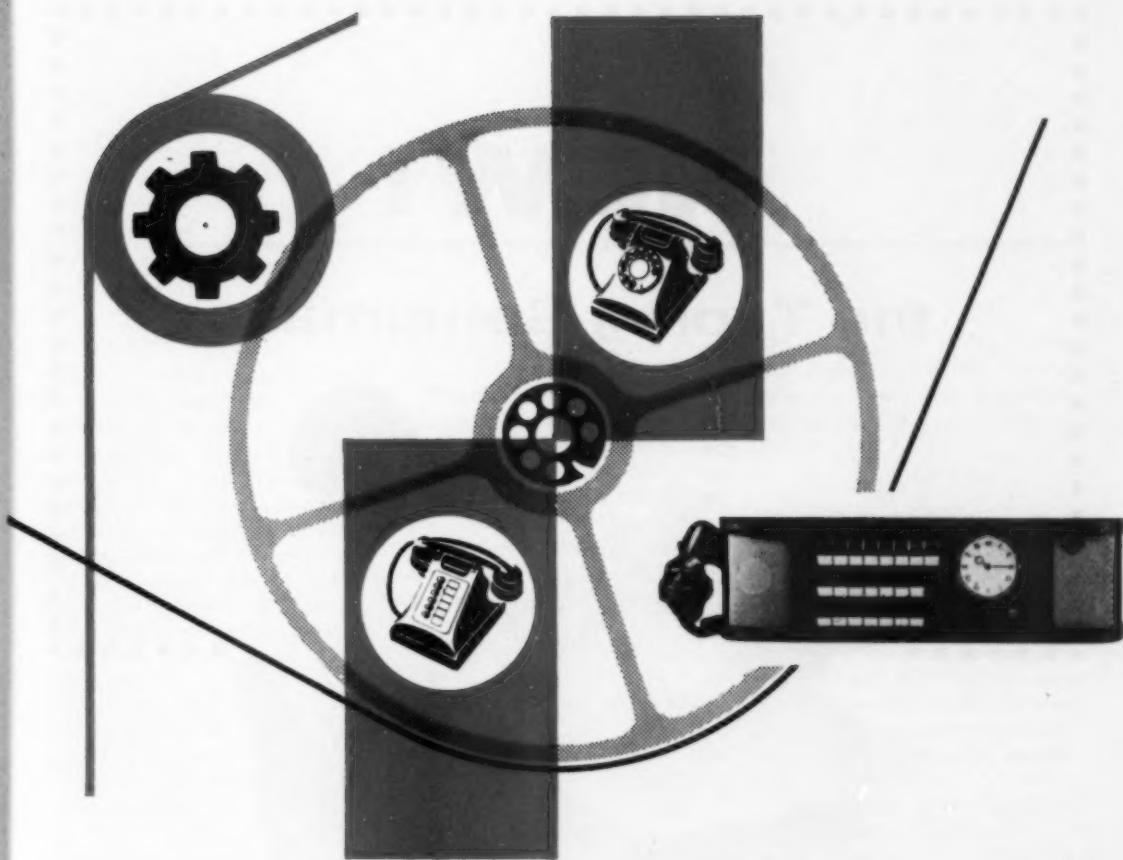


RUBERY OWEN Steel Shelving

ADJUSTABLE-EXTENDABLE-INVALUABLE



RUBERY OWEN & CO. LTD., INDUSTRIAL STORAGE EQUIPMENT DIVISION,
WHITEGATE FACTORY, WREXHAM, N. WALES. Phone: Wrexham 3566-8



INTER-DEPARTMENTAL COMMUNICATION

keeps the wheels of Business turning. Businessmen everywhere have come to recognize the paramount importance of intercommunication, the indispensable factor in the smooth and efficient running of a business or factory. With the aid of the new B.H.O.T. Loudspeaker Master, (pictured at left), contact with any member of your staff is effected INSTANTLY, WITHOUT leaving your desk. B.H.O.T., with 67 years experience in Telephony and Electronics, offer you a service of unrivalled efficiency. Please phone or write for our illustrated brochure.

THE BRITISH

HOME & OFFICE TELEPHONE

Co. Ltd.



EST. 1890

Autophone House, 73 Great Peter Street, London, S.W.1 Tel. ABBey 4242 (P.B.X.)

NEW!

the Typing Sensimatic



A NEW ACCOUNTING MACHINE WITH COMPLETE FLEXIBILITY

The Typing Sensimatic combines an 84-character, full-keyboard writing unit of an entirely new and revolutionary design with the speed and flexibility of the famous Sensimatic accounting machine.

The Typing Sensimatic can save your business time and money. For full information contact your local Burroughs office or Burroughs Adding Machine Limited, 356-366 Oxford Street, London, W.1.

Burroughs
TYPING SENSIMATIC

MARCH OF BUSINESS

THE SIZE EFFECT

FOR some time the Acton Society have been investigating the problems of 'bigness'. Their first study, published in 1953, produced evidence of a statistical relationship between the size of a firm and the morale of its employees—with the big firms coming off the worst. Now they have issued another report* which tries to explain this 'size effect' and to suggest ways of combating it.

The new study is based on research into the morale of a group with 12 manufacturing units. The smallest of these had about 20 employees, the largest nearly 4,000.

As before, lost-time was used as a morale-indicator—on the assumption that "a man can hardly express his identification with his work more clearly than by whether or not he turns up to perform it."

A preliminary analysis of the group's attendance records supported the statistical implications of the first study. Then the research team made special investigations in five units, in an attempt to establish a cause-and-effect pattern. Here, as might be expected, they encountered an increasing number of loose ends, few of which could be tied together in other than broad conclusions.

What is probably their most forceful conclusion concerns the inadequacy of intermediate management. This is described as the "rock-bottom difficulty" of the big organization. The report says:

"The calls which it makes on management ability are not, in any individual case, beyond the power of man to meet. But in total they outrun the

supply of adequately trained managers.

The small unit can get on with men who are competent technicians and reasonably forceful, fair-minded and intelligent characters. These may not grow on every bush, but the ordinary vicissitudes of life produce them in plenty. The large units need specialists—and these, in the numbers required, simply do not exist. The inadequate morale of the larger units reflects this deficiency".

Is this state of affairs one of the inescapable penalties of increasing size? The authors of the report think not. They say: "The old-type manager might be born; the new-style manager assuredly must be made. . . ."

A new 35-minute colour film, due for general release, deals with the impact of automation on a working-class family. It was recently shown to 50 M.P.'s at the House of Commons.

Its story is that the introduction of new industrial techniques holds no terrors, since they invariably create more work and wealth. Title is 'As Old as the Windmill.'

The film was made by Martin Films in collaboration with the Standard Motor Co. Much of the material was shot at the Standard Works at Coventry.

★ ★ ★

TOO GOOD TO SELL?

TO meet competition in the European Common Market, British engineering firms will have to make big policy changes. One potential handicap is that their products are too good—and therefore too expensive. In future they will have to break with tradition and lower their standards to those of Continental competitors.

That, at least, is the opinion of Ian T. Morrow, managing director of the Brush Group. In a Third Programme talk last month he said:

"Continental manufacturers design and make plant to last 15 years and it lasts 25. British manufacturers design theirs to last 25 and it lasts 50. In either case, under today's mushrooming technical advance most plant is obsolete long before its useful life is over."

"The robustness and ability of British products to stand up to abuse

Next Month

Design Consultants

How manufacturers can use specialist advice to improve the looks—and performance—of their products

Timber's Comeback

New techniques—and new thinking—have made wood a cheap and versatile engineering material

* Size and Morale II. Acton Society Trust. 3s 6d.

has bred a double standard on the part of customers. If British plant breaks down or is late there is an outcry, yet time and time again Continental plant does so and there is little or no indignation. . . . In a world which seems to want British quality at Continental prices, our industry is being faced with an impossible task."

To have two different sets of standards in the drawing office and factory was impracticable, said Mr. Morrow. The choice was between clinging to British standards and adopting those of the Continent.

The customer was already choosing in favour of Continental standards. Even in the Commonwealth, economic considerations were driving more and more people to accept these. The advent of the Free Trade Area would hasten the process.

★ ★ ★

Mars Ltd., of Slough, are now using an electronic computing service to process their sales information. Analyses are made in a way which could not be used formerly because it would have taken too long—yet the results are available one week earlier than under the old system.

★ ★ ★

NIGHT AND DAY

THE American personnel manager has a new word. It is 'moonlighting'—the practice of running two jobs simultaneously, one by day and the other by night.

Several million American workers already do this, according to a report by the National Industrial Conference Board. To some companies, double-employment has become a serious problem, involving up to 25 per cent of their payroll.

The employees' motive is obvious: to earn more money during a period of soaring prices. In this they are aided and abetted by the shorter working week and by the extension of automation, both of which leave them with more energy and spare time. Because most types of labour are scarce, there are plenty of opportunities for moonlighting.

The unions frown on the practice. So do medical authorities. For reasons of expediency, some firms turn a blind eye to it, although all condemn it in principle.

Moonlighters come to the attention of management in many ways. Symptoms include excessive absenteeism and a marked deterioration in the standard of their work. Susceptibility to accidents increases; nerves become frayed, sometimes leading to altercations with other employees.

★ ★ ★

In Britain moonlighting is rare: PAYE and other documentation clip the wings of those who might be tempted to try it. For some large firms the 'P.J.' or private job is a more serious problem. Employees take time off to earn high rates of pay (generally tax-free, because they are not declared) for doing such things as house-painting, hedge-clipping and car-cleaning. Where there are thousands on the payroll, P.J. absenteeism is difficult to detect, even more difficult to stamp out.

★ ★ ★

WHY THEY DIED

IN 1956 more than 12,000 American businesses closed their doors for the last time. A mass post-mortem report—prepared by the credit-rating firm of Dun and Bradstreet—makes sad, if not entirely unexpected, reading.

No fewer than 47.9 per cent succumbed to an insidious complaint described as 'inadequate sales.' 'Competitive weakness' mowed down 21.1 per cent. Among the remainder the cause of death is ascribed to 'heavy operating expenses,' 'receivables difficulties,' 'inventory difficulties,' 'excessive fixed assets,' or 'poor location.'

None, it seems, was a victim of the two causes which most unsuccessful businesses write into their own obituaries—'bad luck' and 'lack of capital.' Brutally, Dun and Bradstreet pronounce that in almost every case the basic cause was a management failure.

Their analysis in this respect: Plain incompetence, 42.7 per cent; unbalanced managerial experience, 18.2 per cent; managerial inexperience, 17.1 per cent; inadequate experience of the market concerned, 13.3 per cent; neglect due to bad habits, ill health, marital difficulties, etc., 4.3 per cent. Only 1.4 per cent could genuinely offer the excuse that they were struck down by such natural or unnatural disasters as fires, floods, thefts or strikes.

The 1956 mortality rate exceeded the 1955 rate by nearly 10 per cent. Already it is evident that this year the increase will be even bigger. Most of the victims are small firms with a turnover of less than £350,000.

All this implies that in Britain as well as in the U.S.A. the small firm's fight for survival will eventually become an all-out fight for management know-how.

★ ★ ★

Warwickshire Ironmongers' Association has decided that it cannot support the Retail Trade Education Council's management training scheme. One of its reasons, apparently, is a fear that young men who gained the council's retail management certificate would be tempted to leave the ironmongery trade and seek jobs in multiple stores. . . .

★ ★ ★

BOOST FOR O & M

THE value of O and M is widely recognized. Some authorities suggest that even firms with as few as 100 clerical workers could profitably employ a specialist in this field.

But qualified O and M men are scarce, and very little attention has been paid to the problem of producing them in quantity. Generally they are trained 'on the job' by individual employers—one reason why O and M is so often regarded only as a big-firm activity.

Soon, however, the position may improve. Eight big firms have now set up a non-profit-making organization to investigate and promote training in this subject. Sir Thomas

S.P.L.
SOUTHAM PLASTICS LIMITED

INJECTION MOULDING EXTRUSION MOULDING
KNOWLE MOULDING VICTORIA PARK LANE
BRIGHTON
TELEPHONE: BRIGHTON 6101
LAMINATIONS
TELEGRAMS: SOUTHERN BRIGHTON

Frank L. Jackson Esq.
Messrs. Jackson & Smith Ltd.,
Invicta Works,
BIRMINGHAM, 18.

18th March, 1957.

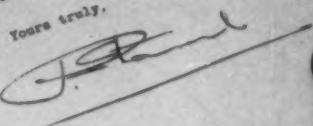
Dear Mr. Jackson,

I recently consulted our printers with the object of completely re-designing our letterhead and stationery, and this letterhead is the result.

The craftsmanship is excellent, and the choice of paper admirable. It is a rag content, tub-sized, air-dried paper of a specification guaranteed by the British Stationery Council, and there is no doubt that a really good paper such as this, gives an added quality to good printing.

First impressions are important, and I am certain that the prestige of this letterhead, and I am certain that enhance the prestige of our Company.

Yours truly,



Ask your printer for his advice

Issued by the

BRITISH STATIONERY COUNCIL · BALFOUR HOUSE · 119 FINSBURY PAVEMENT · LONDON E.C.2.

For **COST REDUCTION** In office administration

You should examine the

EMIDICTA

Network
DICTATION SYSTEM

A system of central recording
for office dictation from a
number of points to one or
more Emidictas—an economi-
cal, speedy and efficient method
for the progressive organisation.

*The Network increases the efficiency—
the Emidicta reduces the cost.*



For full details contact the Emidicta Advisory Bureau. E.M.I. SALES & SERVICE LTD.

"His Master's Voice" Showrooms, 363-367, Oxford Street, London, W.1. (Grosvenor 7127/8, Mayfair 8597)
Scottish Sales Office: 135, Renfield Street, Glasgow, C.2. (Douglas 6661)
North Region Sales Office: Regent House, Cannon Street, Manchester. (Deansgate 2315)
Birmingham Sales Office: City House, 111/117, John Bright Street, Birmingham 1 (Mid. 5821)

EMI 139

Hutton, director of the British Productivity Council, is its chairman.

The new organization will study basic training requirements; run pilot O and M courses; and help selected training centres to put on regular courses. At present, however, its plans are embryonic and it cannot accept enquiries about courses.

The firms behind this venture are Dunlop, I.C.I., Rolls-Royce, Shell-Mex and B.P., Stewarts and Lloyds, Metal Box, Unilever, and United Steel. All run successful O and M departments and for some time have been exchanging experience informally.



Mechanization enters a new field: the issue of share certificates. For a recent issue by the Anglo-American Corporation of South Africa Ltd., certificates and dividend warrants were processed by I.B.M. punched card machines—probably the first time that punched cards had been used for this purpose.

Shareholders' names and addresses, and also the numbers of shares held by them, were printed in one machine run. Net dividend payments were calculated on electronic equipment, the warrants then being prepared on the accounting machines at the rate of 750 an hour.



VIVE LE SPORT

"INDUSTRY must do everything it possibly can to support all forms of sport," said Sir John Pascoe, chairman of British Timken Ltd., at a recent luncheon in London.

"Sport has become a matter of national prestige. Losing may not seem a major disaster to everyone. But we live by selling products to people in other countries. If sport means national prestige in those countries, the customer is always right—and this country must take every possible step to see that we are at the top."

Sir John practises what he preaches. His firm sponsor Northampton's cricket team; make generous contri-

PEOPLE

PRODUCTS

PLACES 1

ROOF GARDENS can be pleasant places even in unpleasant surroundings. But workers at the Treforest, South Wales plant of K.L.G. Sparking Plugs Ltd. seem to have the best of both worlds.



RESETTLEMENT of axed regular Servicemen is to be helped by a small official board, under the chairmanship of Sir Frederic Hooper, managing director of Schweppes Ltd. Sir Frederic was Director of Business Training at the Ministry of Labour during the main 'de-mob' period 1945-46.



STATIONERY SUPPLIES are built into the British India Steam Navigation Co.'s new boardroom table. Centre fitting contains pens, paper, etc. and can be opened from either side.

butions to the British Olympic fund and similar causes; have provided comprehensive sports grounds for employees and allow outside clubs to use them; and offer good jobs to eminent sportsmen when they retire from full-time activities.



WISDOM from WESTMINSTER

"There is serious under-employment in industry today—under-employment of capital and labour resources through restrictive practices; and through managements hanging on to men they do not need...." Mr. Jo Grimond (Liberal Leader) in the Commons.

"It is the custom in most industries that members of the staff have to be given one month's notice. Would it not be perfectly fair to extend that to all members of the firm?"—Mr. Henry Usborne (Labour) in the Commons.

"I have no doubt whatever that the excessive deductible business expenses of companies is one of the most hotly resented scandals of our time."—Mr. A. J. Irvine (Labour) in the Commons.

"The reason why there has been such an extension of business expenses is because we cannot reward the senior servants of companies by giving them more money, because it is completely useless owing to tax, and everybody has got to find some other way of paying them for their services. It may be undesirable, but it is a consequence and not a cause of inflation."—Sir Ian Horobin (Conservative) in the Commons.

EMPLOYEE SHAREHOLDING

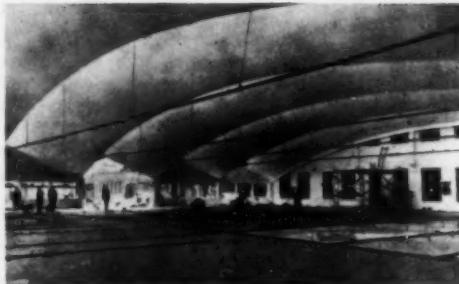
Does the question of 'Who owns what' really matter? How important to the individual is a 'stake in the enterprise'? Is employee shareholding a good way of getting savings for investment?

A BUSINESS Panel discusses these questions in a report on page 65.

PEOPLE

PRODUCTS

PLACES 2



LARGE CLEAR SPAN of the new Thames Board Mills factory at Purfleet, Essex, can carry a 10 ton load underslung. This is the result of A.T.A.-Silberkuhl's new construction method—concrete shells spanning between latticed steel arches (see top picture). A clear span of up to 210ft. can be obtained.



NEW CHAIRMAN of Tootal Broadhurst Lee Co. Ltd., Manchester, is 49-year-old T. A. Fairclough. He joined the firm 28 years ago, straight from Cambridge, and worked his way up to the boardroom in 10 years.

FUTURISTIC CASH DESK has been built for Blacks, a new Oxford Street, London, store. Multi-coloured panels of polyester resin and glass fibre are bonded to a metal frame. The structure rests on a single tubular support only 3in. in diameter.



Promotion must be worn lightly

Even a minor promotion gives a man power and unless he knows how to use it properly he can ruin himself, cause resentment and unrest among his subordinates and untold trouble to his employer. It goes almost without saying that any means which will eliminate such a risk should be used to the full.

The most effective means comes readily to hand in the shape of 16mm. films from the G.B. Film Library. There is an excellent range available, to hire or buy, which deals exclusively with the problems of Management. Each film demonstrates to men holding authority the personal and administrative problems they have to face, and pinpoints the pitfalls they must avoid.

These 16mm. films are an invaluable contribution to successful personnel relations and should be shown regularly to Management in every kind of Business and Industrial Organisation.

FILM shows the way to successful management

16mm. films in the G.B. Film Library present the case of Industrial Management, Sales Training and many specific problems of Industry today in an effectively dramatic fashion. Full details and literature are available. Write now.



G.B. FILM LIBRARY

Proprietors:

Rank Precision Industries (B.A.F.) Limited,
Dept. B/9/57, Aintree Road, Perivale, Greenford, Middlesex
Telephone: PERivale 7461/9

A brief selection of the 16mm. films available on Industrial Management

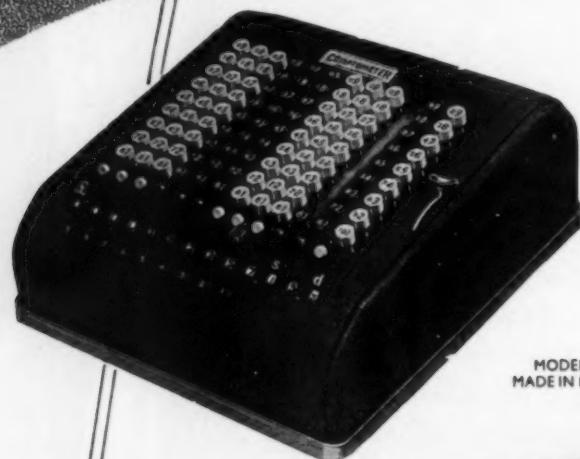
CATALOGUE NO.	TITLE	COLOUR B/W	REELS	HIRE CHARGE*	PURCHASE PRICE	APPROX. RUNNING TIME
IF.3954	All I Need is a Conference	B/W	3	£3.0.0. £9.0.0.	£60.0.0. £12.10.0.	30 mins.
IF.3710	First Impressions	B/W	1		£12.10.0.	10 mins.
IF.3779	The Inner Man Steps Out	B/W	3	£3.0.0.	£60.0.0.	27 mins.
IFC.7048	Production 5118	Colour	3	£5.0.0.	Not available for outright purchase £12.10.0.	30 mins.
IF.3711	Supervise With Care	B/W	1	10.0.	Not available for outright purchase £12.10.0.	13 mins.
IF.3821	The Shop Steward	B/W	2	£1.0.0.	Not available for outright purchase	22 mins.

*First day's hire. Reduced 50% for each subsequent day



If it's not made
by Felt & Tarrant
it's not a
Comptometer

HIGH-SPEED-ELECTRIC-ADDING-& CALCULATING-MACHINES



MODEL 992
MADE IN BRITAIN

THE
COMPTOMETER

Regd. Trade Mark

SALES
SCHOOLS
SERVICES

Employment
Depts. & Training
Schools in every
big town

TALKING POINTS

CONFERENCE MERRY-GO-ROUND

Must It Be The 'Same Old Stuff'?

THE dreams of many conference organizers are haunted (or should be!) by the problem of ringing the changes in their speakers. From delegates they get criticism about 'the same old names and the same old stuff.'

At some conferences a disproportionately large number of speakers are drawn from two groups: consultants and representatives of equipment manufacturers. Both are capable of providing excellent papers. But there is always the danger of the same tunes being played, with minor variations, over and over again.

One reason for the problem is that the number of conferences has grown rapidly during the past few years. This means that the relatively small band of 'dependable' speakers is being stretched almost as far as it will go. Another reason is that conference proceedings are now publicized more widely. It is rather like the situation in the entertainments field, where TV and radio devour overnight material which would have lasted ten years or more in the music-hall era.

Conference organizers cannot produce new speakers from thin air. A man with a good story to tell may be incapable of telling it well on a platform. A man with good ideas may be too busy applying them in his own business.

Perhaps the only answer is for the organizers to follow the lead of TV and radio and place more emphasis on 'audience participation.' At many conferences group discussion exists in name only. What really happens is that a few delegates read statements which they have been scribbling on the backs of their programmes, or pose a series of disconnected ques-

tions which the speaker adroitly sidesteps.

How group discussions can be made more lively is another story. But at least some of the problem would be placed fairly and squarely in the laps of those who grumble about 'the same old stuff.'

Secret Suggestions

WHICH is more likely to encourage employees to make suggestions: a scheme in which prizewinners are publicly back-slapped by the management, or one in which all participants are cloaked in anonymity?

The experience of the Ford Motor Co. is probably typical. They find that some employees express a desire for anonymity when submitting suggestions, but that very few of them dislike publicity if their suggestions are approved.

From this Ford deduce that it is the employee's natural fear of making an ass of himself—rather than the fear of being 'identified' with the management—which acts as a deterrent.

Of course there are other reasons why suggesters wish to remain anonymous. Sometimes an employee thinks that if he suggests a new way of doing a job, he is criticising the efficiency of his superiors. If there is any question of eliminating certain operations, he may have an uncomfortable feeling that his action would seem disloyal to his workmates.

To overcome such fears Ford have struck a compromise. They give employees who take part in their scheme the *option* of remaining anonymous.

Only signed suggestions are accepted in the first place. But if, on his

form, the employee asks for anonymity, his name, etc., is omitted when the details are copied on to an investigation report. Thereafter his identity is known only to the suggestions officer. Correspondence concerning his suggestion is sent to his home address, since its delivery in the workshops might give the game away.

Ford dislike completely anonymous schemes in which suggesters are known only by counterfoil numbers and are contacted through the works notice-boards. They believe (1) that personal contact and discussion with suggesters—especially those whose ideas are rejected—is a good thing; and (2) that open participation in the scheme should be encouraged.

The advantage of their compromise system is that because anonymity is permitted only a few employees insist on it.

What's in a Name?

BATCHELORS Peas Ltd.—one of Britain's oldest canning firms—are now Batchelors Foods Ltd. The new title reflects more accurately their current marketing policy.

In 60 years Batchelors have grown from a one-man business into a national company with 4,500 employees. Canned peas, the line on which their reputation is based, are still turned out in huge quantities, but in addition they now market about 20 other foods. The range may be extended further when a new factory at Ashford, Kent, is opened next year.

The idea of a re-christening might be considered by other businesses which have been pursuing a policy of diversification. Today there are many firms whose current activities make nonsense of their titles.

An argument against re-christening is that it may confuse customers and lose some of the goodwill. But does this outweigh the value of an 'accurate' name?

How many orders are lost by manufacturers who are so readily identified with product X that people never think of them in connection with products Y and Z—although these, over the years, have become much more profitable.

Now transmit business data - in minutes



Easy as ABC

A.

Simply write, type, print or draw original —on ordinary paper.



B.

Slip it round drum, press 'send' button. Transmission starts to one or many destinations simultaneously.



C.

Message is reproduced automatically at receiving point(s) in 2½ minutes, ready for immediate use.



Please send me full details of the Creed Facsimile System.

Name _____
Company _____
Address _____

SB7

by *Facsimile*

Minutes after its receipt at head office, the order is flashed to factory or warehouse — *in writing*. Delivery can start at once. That's just one of the many ways in which the Creed Facsimile System is speeding business operations up and down the country.

There's scarcely any limit to the type of material which can be handled by this revolutionary communication system. Handwritten messages, typed matter, signatures, orders, printed forms, diagrams — Creed Facsimile takes them all in its stride. Just the touch of a button and your message is on its way—to be received, on paper, as a precise facsimile of the original.

With a Creed Facsimile System linking scattered locations there is no more waiting for messengers or mail—business operations are cut by hours or even days. And because Facsimile 'puts it in writing' there are no more verbal errors, no chance of vital data being transposed or omitted—every message is reproduced exactly as sent, at one or many selected destinations simultaneously.

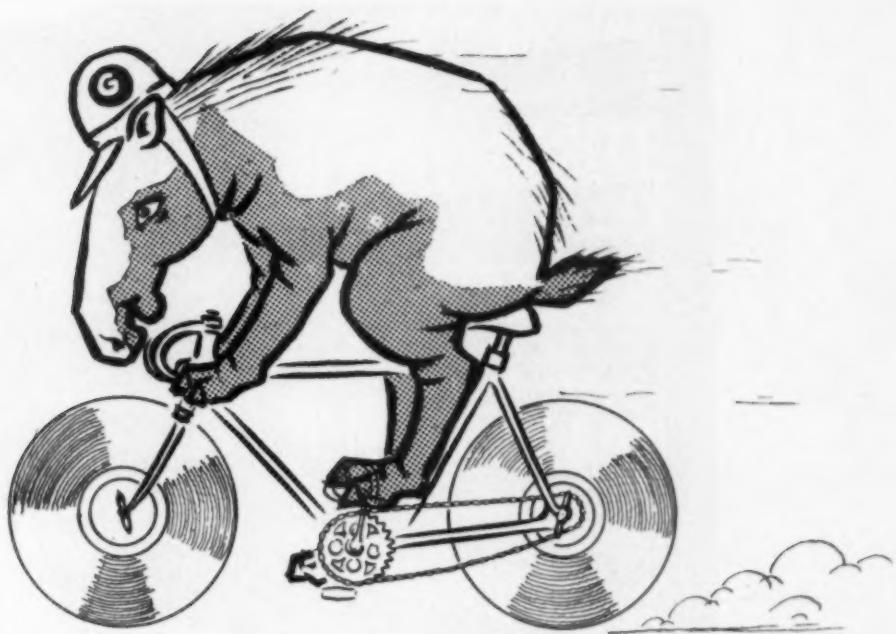
Small wonder, then, that more and more organisations are finding Creed Facsimile the ideal solution to long-standing communications problems.

Post coupon today for illustrated literature and learn how the Creed Facsimile System is already serving business and industry—and what it can do to put greater efficiency in your intra-company communications.

Creed & Company Limited

TELEGRAPH HOUSE
CROYDON · SURREY





"it's staying power you need . . ."

(says Timothy Tapir)

. . . the power to stay put—a guaranteed feature of GOSHERON tapes under all conditions.

GOSHERON tapes are used everywhere in every industry from the simple packaging job to the exacting demands of modern techniques—it is only GOSHERON'S leading position in the industry backed by years of research and development which makes this possible.

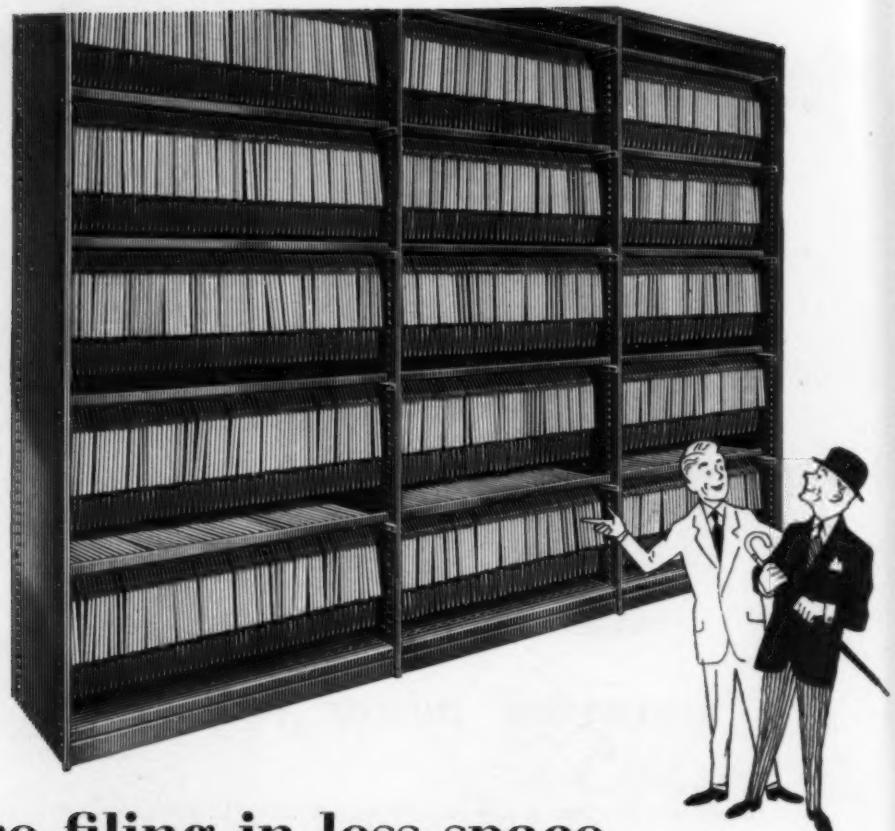
★ INSIST ON THESE GOSHERON TAPES

- ★ TICKOTABS (Self-adhesive paper, acetate and foil labels)
- ★ TRANSOVIL (Unplasticised self-adhesive P.V.C. tape)
- ★ TRANSOTAPE (Cellulose self-adhesive tape)
- ★ TRANSOPRINT (Printed filmic self-adhesive tape)
- ★ TEX-O-TAPE (Cloth self-adhesive tape)
- ★ DILEC (P.V.C. electrical tape)
- ★ CONTOR (Paper self-adhesive tape)
- ★ VYLAP (P.V.C. pipe protection tape)

Gosheron THE FIRST NAME IN TAPES

The Packaging Tape Centre (Regd.)

JOHN GOSHERON & CO. LTD., 79-81 ALBERT EMBANKMENT, LONDON, S.E.11. Tel. RELIANCE 7600
SEPTEMBER, 1957



More filing in less space —it's laterally true!

THIS SANKEY-SHELDON system is a visible method of filing, saving time, labour and space. Strong manilla pockets, which are identified by clearly visible title strips and

linked at the top edges by metal bars, are suspended laterally from frames fitted into shelving units, or other convenient vertical supports.

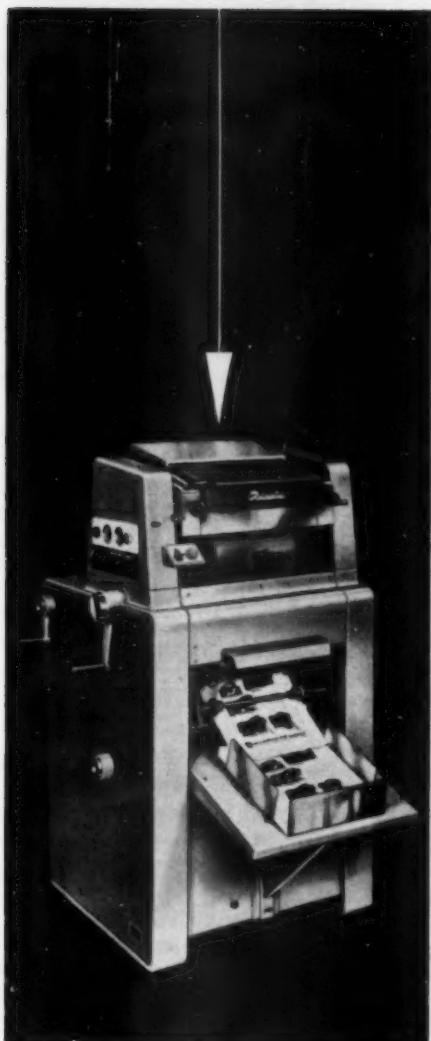
FILING SYSTEMS BY

Sankey-Sheldon

OF COURSE!

46, Cannon Street, London, E.C.4. *Telephone : CITY 4477 (14 lines)*

Also manufacturers in steel of :— DESKS • TABLES • CHAIRS • CUPBOARDS • PARTITIONS
CLOTHES LOCKERS • SHELVING • STORAGE BINS • LIBRARY SHELVING • FILING CABINETS



If
you
use
good
print

More and more business and industrial organisations are realising the advantages of printing by Rotaprint. Beautifully designed, simple to operate, this machine can produce a dazzling variety of work of the highest quality, at a price which makes the initial outlay a very profitable investment.

ENQUIRY FORM

H.25

Please send, without obligation, printed specimens and full details of Rotaprint.

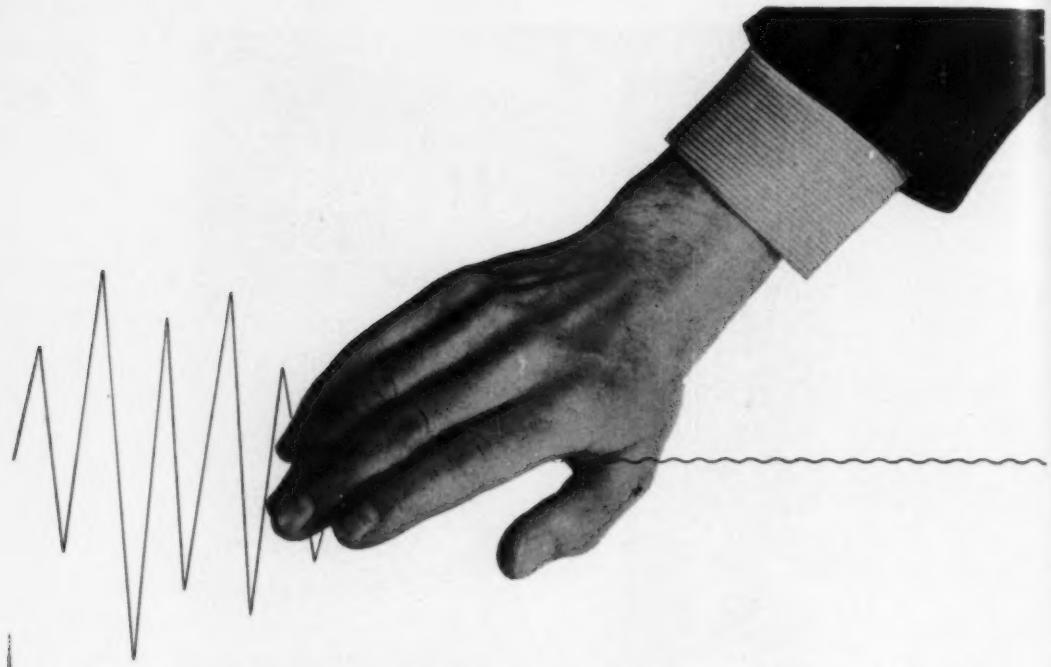
NAME _____

ADDRESS _____

Pin this Enquiry Form to your letterheading and post to:
ROTAPRINT LTD., HONEYPOD LANE, LONDON, N.W.9
Tel: COLindale 8822 (12 lines)

you
need

→ **Rotaprint**
small offset



Sound control is our business

Sound Control Limited, with their expert, highly experienced team of acoustic engineers, will analyse, diagnose and cure most problems in sound. Their successes range from the suppression of obstinate echoes or resonances in concert halls and cinemas to reducing general noise level in offices and factories. Full details of this service will gladly be sent on request.

THE CONSULTING DIVISION acts in a consultative capacity to architects, Government departments and industry generally on all acoustic problems. This service is available at moderate fees and includes advice on the design of new structures as well as the means of overcoming existing noise troubles. Expert supervision of your own contractor's work can also be undertaken.

THE CONTRACTING DIVISION exists to carry out all work needed to effect a cure. *The Division is under no obligation to use particular proprietary products.* The sole test applied is that the material used is up to the mark acoustically — irrespective of its source.



SOUND CONTROL LIMITED

A MEMBER OF THE THERMOTANK GROUP OF COMPANIES

Consultants and Contractors in Architectural Acoustics

COLNESIDE WORKS : WEST DRAYTON, MIDDLESEX. PHONE : WEST DRAYTON 2443/2943
SCOTTISH OFFICE : 10 BOTHWELL STREET, GLASGOW C.2. CENTRAL 6571/2



NEW office partitioning that's easy to put up and easy to change around

'Modular' means 'using components of a standardized basic dimension'. That's why Modular Partitioning is so easy to rearrange whenever you want to alter the layout of your offices—every part is *interchangeable* (most of the sections are cold-rolled which ensures their accuracy). You can switch doors and panels, alter glazing arrangements—change the colour scheme if you like—very quickly, without disturbing the rest of the installations—or your staff!

But although it is so adaptable, Roften Modular Partitioning is remarkably permanent in appearance and highly efficient as to sound insulation—it has a cavity construction like a brick wall. Full provision is made to carry electrical services *inside* the partitioning. It looks good too, hard-wearing stove enamel in

thirteen standard colours—which you can combine as you wish.

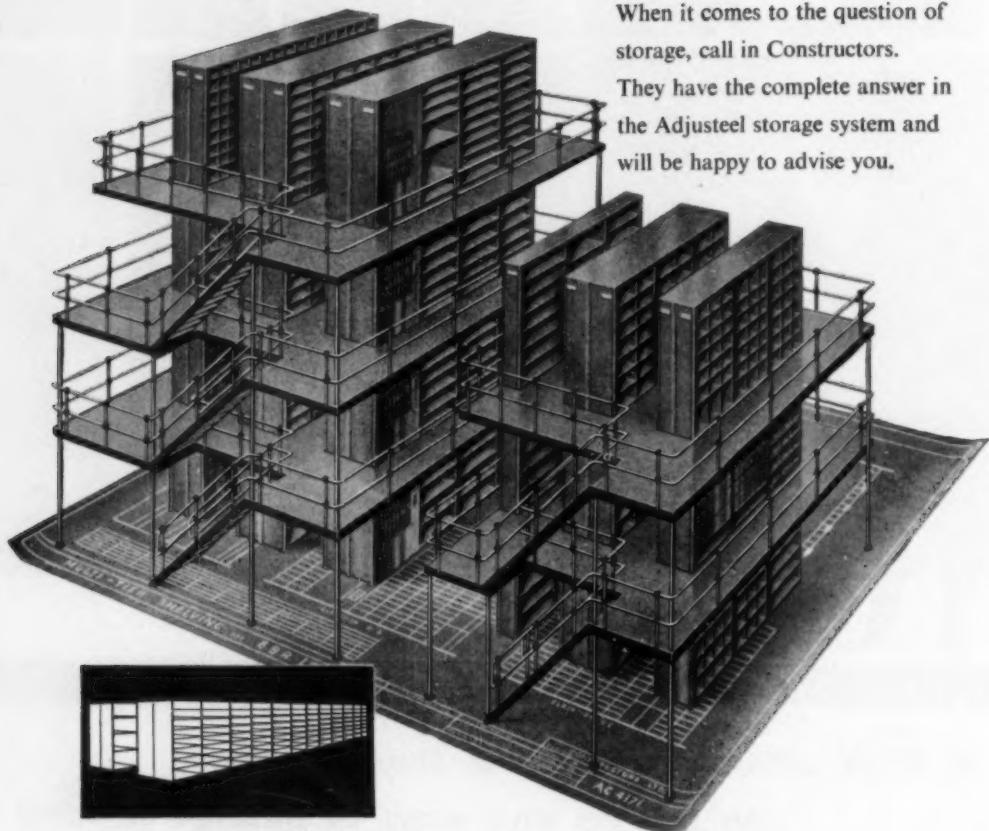
.....
 • *Floor-to-ceiling, 7 ft. 2 in. screening, or 3 ft. 6 in. barrier railing; solid panels, half glass or all glass; lots of doors, hatches, fanlights, grilles, &c.*

ROFTEN

M | O | D | U | L | A | R
PARTITIONING

And it's all surprisingly inexpensive. Phone up and find out, or write for further details to:
 Department B.I. WILLIAMS & WILLIAMS LIMITED
Williams House, 37/39 High Holborn, London, W.C.1. HOL. 9861
Roften Works, Hooton, Wirral, Cheshire. Willaston 2171

plan with Constructors in mind...

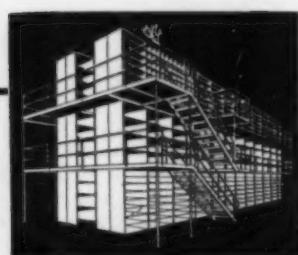
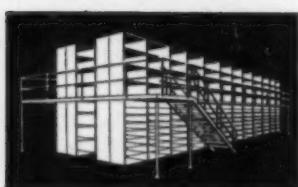


When it comes to the question of storage, call in Constructors.

They have the complete answer in the Adjuststeel storage system and will be happy to advise you.

Build upwards and save space.

Your storage capacity can be doubled, trebled or quadrupled as your organisation progresses.



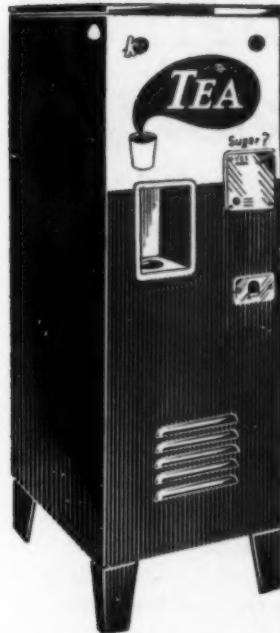
CONSTRUCTORS
FOR FACTORY EQUIPMENT
AND OFFICE FURNITURE

CONSTRUCTORS GROUP

Dept. T, Tyburn Road, Birmingham, 24

Telephone: ERDington 1616

London Office: 98 Park Lane, W.1. Tel: MAYfair 3074
And at Manchester, Leeds, Bournemouth and Leicester



Britains first fully-automatic Tea Service for Industry

The TEA CUB is the complete answer to industry's problems in providing staff with refreshing, stimulating on-the-spot tea *without* heavy overheads. It is a revolution in catering — the first fully-automatic coin-operated tea machine.

There are two types of TEA CUB: one serves tea into the employee's own cup, the other delivers it in a throwaway cup.

SAVINGS FOR YOUR OFFICE OR FACTORY

The TEA CUB is highly economical in time and costs —

- * It saves journeys to the canteen
- * It saves canteen labour and tea-trolley service
- * It saves preparation of tea by staff

THE TEA CUB MEANS ECONOMY ALL ROUND

TEA CUB TEA IS ALWAYS FRESH!

With the TEA CUB it is impossible for the tea to deteriorate — the last cup is as fresh as the first. And, with each cup individually prepared at the time of purchase, perfect freshness is guaranteed every time. Just insert a coin and freshly-made tea is delivered instantly.

- * Coin operated
- * Instant service
- * Each cup individually prepared
- * Pure Fresh Ingredients

Also available - Coffee from the COFFEE CUB

Superb coffee automatically at your service with the COFFEE CUB.

Tested and proved throughout two continents.



Write today for full details of this unequalled industrial welfare service.

W. M. STILL & SONS LIMITED

29/31 GREVILLE STREET, LONDON, E.C.1

Telephone: HOLborn 3744

This is XEROGRAPHY in action!



**See how xerography works —
and study its application to your business**



RANK-XEROX LIMITED

37-41 MORTIMER STREET • LONDON • W.I • MUSEUM 5432

Agents and representatives throughout the world

Faster than any copying process you have seen before. Electrostatic reproduction—without darkroom, chemicals, or sensitized emulsions. Recently introduced into Britain by Rank-Xerox Ltd., xerography extends the scope of offset lithography.

Xerography is already established as the fastest, most versatile and economical method of making 'masters' of documents, typescript, drawings and printed matter for duplication. Xerography is a DRY electrostatic process, requiring no darkroom, chemicals, or sensitized emulsions. It is as simple to use as this four-stage picture sequence demonstrates:

- 1 Material to be copied is placed face down on the plate glass top of the Xerox 'SS' or 'VR' camera.
- 2 The plate is charged in the Model 'D' Processor and placed in the Xerox camera. The image of the material being copied is directly exposed to the charged plate through the camera lens.
- 3 Developing powder is now cascaded over the surface of the plate several times. The powder is attracted only to the positively-charged image areas of the copy.
- 4 After development, the offset 'master' is placed over the image on the Xerox plate, and the powder image is transferred by an electrical charge. By placing the 'master' in the Xerox Heat Fuser for a few seconds, the powder image is fused to form a permanent image. The 'master' is now ready for printing.
From first to last stage the operation takes no more than three minutes.

Please ask your secretary to attach this coupon to your letterhead.

My Company is interested in how it can cut office printing costs and speed the production of Company literature through the new copying process of xerography. Further details, please ...

Name _____

Position _____

Company address _____

01/67-1

BUSINESS



Every activity in Industry, Science or Commerce is based on thoughts—planned thoughts and exact calculations....

Brunsviga will solve your calculating problems with speed and accuracy. Ask for details of the wide range of hand and electric calculating and adding-listing machines.



BRUNSVIGA

write or phone to

BRUNSVIGA SALES COMPANY LTD.

40a FURNIVAL STREET • LONDON E.C.4
Telephone CHAncery 3128/9

SALES AND SERVICE THROUGHOUT THE U.K. AND EIRE

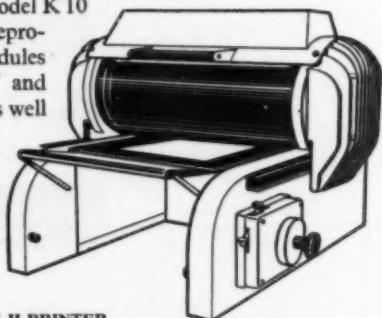
*If only
she were
twins . . .*



When there's a lot of copying to be done, it's no use dreaming of the impossible; even the cleverest typist is only human! A far better idea is to install Ilford AZOFLEX photo-printing equipment and solve your problem in a really practical, labour-saving way. The range includes the Model K 10

Mark II Printer, giving rapid reproduction of typescripts, schedules and drawings up to 10" x 13" and designed to copy from books as well as from individual sheets.

With AZOFLEX, there are no unpleasant fumes, no dark-room is needed, and first-class results can be obtained without special skill.



AZOFLEX MODEL K 10 MARK II PRINTER

Table-model photo-printing machine for documents up to 10" x 13". Maximum output about 180 copies per hour. Built-in timer for pre-setting and controlling exposures. Normally used with two AZOFLEX T18 developing machines, occupying bench space of 5' x 2'6".

ILFORD *Azoflex*

Enquiries to: Ilford Limited, Azoflex Sales Department AZ9E,
104 High Holborn, London W.C.1. Telephone: HOLborn 3401.

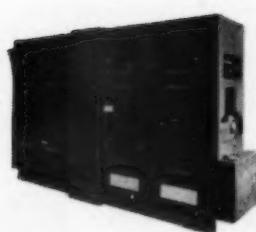
PHOTO-PRINTING MACHINES & MATERIALS



**head
for
figures**

This is the storage drum (the 'memory') of the Powers-Samas PCC. It stores wanted data for a complete accounting routine, along with other data not immediately needed. The push of a button starts the processing sequence, which is performed automatically, at electronic speed, with self-checked accuracy. With the PCC, the "Emp" Electronic Calculator and other electronic machines, Powers-Samas are bringing the very latest techniques to the service of industry. However, accounting efficiency does not necessarily call for electronics. Every day, hundreds of Powers-Samas punched card installations, using mechanical equipment, are operating with optimum efficiency and economy, fulfilling a great variety of accountancy needs everywhere. Powers-Samas offer electronic and mechanical equipment of 21-, 40-, 65/130 and 80/160- columns capacity . . . a range to meet all needs and all budgets.

The Powers-Samas PCC—a full scale electronic computer for commercial, industrial and public service accounting.

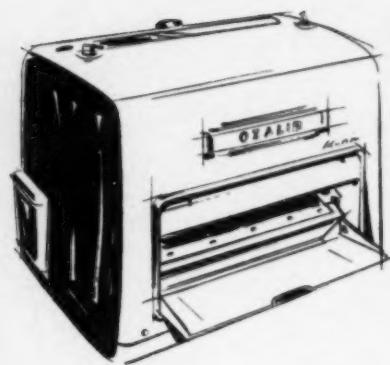


**consult
POWERS-SAMAS**

They have forty years of accounting 'know how' and the world's finest accounting equipment—electronic or otherwise.

POWERS-SAMAS ACCOUNTING MACHINES (SALES) LTD., POWERS-SAMAS HOUSE, HOLBORN BARS, LONDON E.C.1.

A
ROUGH
IDEA
OF
WHAT
THE
LITERITER
LOOKS
LIKE



A ROUGH IDEA OF WHAT IT CAN DO FOR YOU

The ideal Dry Copying machine for use with the highly successful Ozalid Business Systems which have effected this kind of saving in hundreds of offices
60% saving on remittance advice procedure
30% saving on statement production
50% saving on invoice production
40% increased efficiency on works order procedure
A short discussion with our Systems Division may well be the first step to increased efficiency in your organization.

OZALID BUSINESS SYSTEMS

OZALID COMPANY LIMITED • 62 LONDON WALL, LONDON E.C.2 Tel: NATional 0551

These machines will save you
money in handling money

DQ4 SORTER

This new, high-speed machine will sort into separate bags 400 coins per minute, consisting of half-crowns, florins, shillings and sixpences, or will sort, as a separate operation, pennies and halfpennies. The machine can easily handle up to £1,500 in assorted coins per hour.



Vee-Three COUNTER

The Vee-Three counts 2,000 sixpences, and other sizes and denominations up to 1,200 half-crowns, per minute. It is a sensational time and cost-saver to wages departments, checking and issuing large quantities of coins.



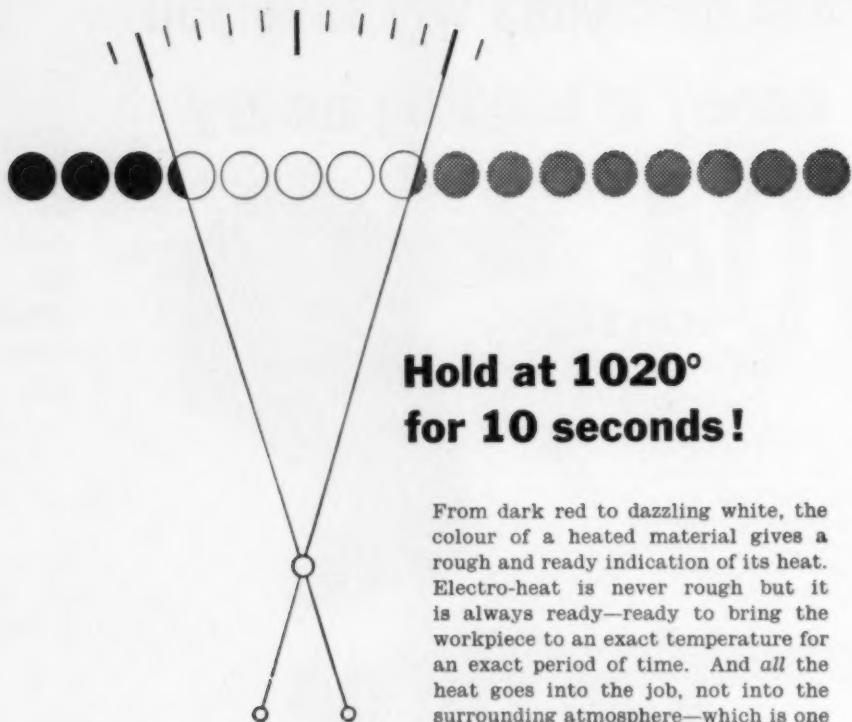
I.C.C. coin-handling machines cover a comprehensive range of applications in the sorting, counting, collating and issuing of coins and tokens. They are already in use throughout the world in banks, factories, cinemas, and other offices handling cash in large quantities. Ask us to help you on any specific coin-handling problem you may have.



**International Coin
Counting Machine**

Co.
Ltd.

17 ALEXANDRA ROAD, ENFIELD, MIDDLESEX. HOWard 3027



Hold at 1020° for 10 seconds!

From dark red to dazzling white, the colour of a heated material gives a rough and ready indication of its heat. Electro-heat is never rough but it is always ready—ready to bring the workpiece to an exact temperature for an exact period of time. And *all* the heat goes into the job, not into the surrounding atmosphere—which is one of the reasons why electro-heat is so economical for precise heat treatment.

In every industry, for scores of applications, electricity means higher productivity.

Electricity for Productivity

'Induction and Dielectric Heating', just published, is a very important addition to the E.D.A. series of books on Electricity and Productivity. Other titles available are Electric Motors and Controls, Higher Production, Lighting in Industry, Materials Handling, and Resistance Heating. Price 8/-, or 9/- post free.

If you would like further advice or information on how electricity can improve productivity, get in touch with your ELECTRICITY BOARD, or with E.D.A. They can lend you, without charge, films about the uses of electricity in industry.

**Issued by the
British Electrical Development Association
2 Savoy Hill, London, W.C.2**



"He that saveth his dinner, will have the more for his supper"

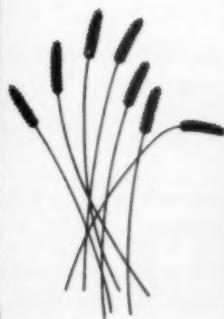
(French Proverb)

It is important that you should be planning ahead for yourself as well as for others.

It is our task to help you provide for the future lean years which come with retirement, out of the income of the present.

We can study both your own individual problem and the needs of your firm, and our recommendations and services in installing and running an insured pension scheme are at your disposal free of charge.

Remember our symbol—the promise of plenty. Let us advise you.



**Superannuation
Advisory Services Ltd**

11 Southampton Row, London, W.C.1 Tel. CHAncery 5226/7/8/9

Attach your card to this advertisement and post to

what happens when



complete type change with a
turn of the wrist.

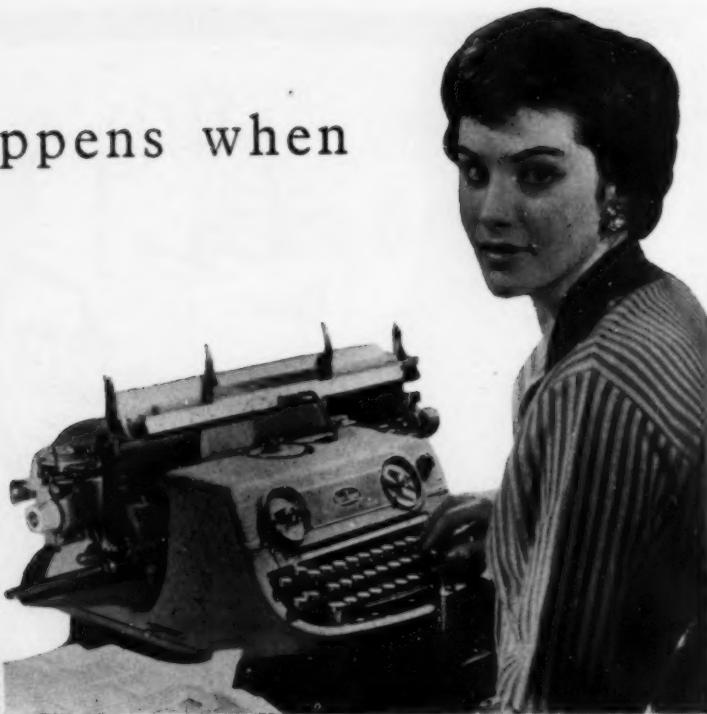
When
you give her
a Vari-Typer
you save
time, trouble
and
money

FOR FURTHER PARTICULARS
OR TO ARRANGE A PRACTICAL
DEMONSTRATION, PLEASE
WRITE OR TELEPHONE:
VARI-TYPER DISTRIBUTORS
(GREAT BRITAIN) LIMITED,

210 EUSTON ROAD,
LONDON, N.W.1.
EUSton 3238/9

02
NATIONAL HOUSE,
36 ST. ANN STREET,
MANCHESTER.
Blackfriars 9955

Vari-Typer



you give her a Vari-Typer?

- * She becomes your office compositor — quick on-the-spot producer of master copy for all purposes and processes ;
- * She can 'set up' all your brochures, catalogues, circulars, etc., as well as all your internal forms and other printed matter ;
- ↗ She has at her disposal hundreds of *instantly changeable* type faces in various styles and sizes ;
- * Her Vari-Typer, so easily operated, gives her changeable vertical and horizontal spacing and automatic margin 'justification'.
- * Foreign language copy and scientific and technical symbols present no problems to her ;
- * She can 'letter up' large drawings for you — even up to 6 ft. in length ;
- * Her finished copy is reproduction copy, with perfect uniformity of impression, ready for printing by direct plate, photo-offset or stencil methods.



Modern Steel Desks at Low Cost

'THANET'

DOUBLE AND SINGLE PEDESTAL DESKS

FEATURES INCLUDE :-

Clean, modern design.

Lino-covered top with anodised aluminium retaining bead.

Alternative arrangement of drawers (3 Box drawers or 1 Box drawer and 1 Filing drawer in either pedestal of Double Pedestal Desk; 3 Box drawers or 1 Box drawer and 1 Filing drawer in Single Pedestal Desk, with pedestal on right or left).

Box drawers run on nylon glides and fitted with rubber stops.

Filing drawers on fully ball-bearing progressive suspension arms.

Recessed plinths below pedestals to provide toe-space.

Suspended Filing Chassis in Filing drawers if desired (either cross-filing foolscap-width or full-depth quarto-width).

Stationery Inserts for Box drawers if required.

High-grade finish, stove-enamelled over phosphate coating.

Standard colour, Scarborough Grey with Black lino top. Other colours to order.

EXPORT: The construction of these desks enables them to be completely knocked-down for shipment.

Please ask for Catalogue No. BU 800

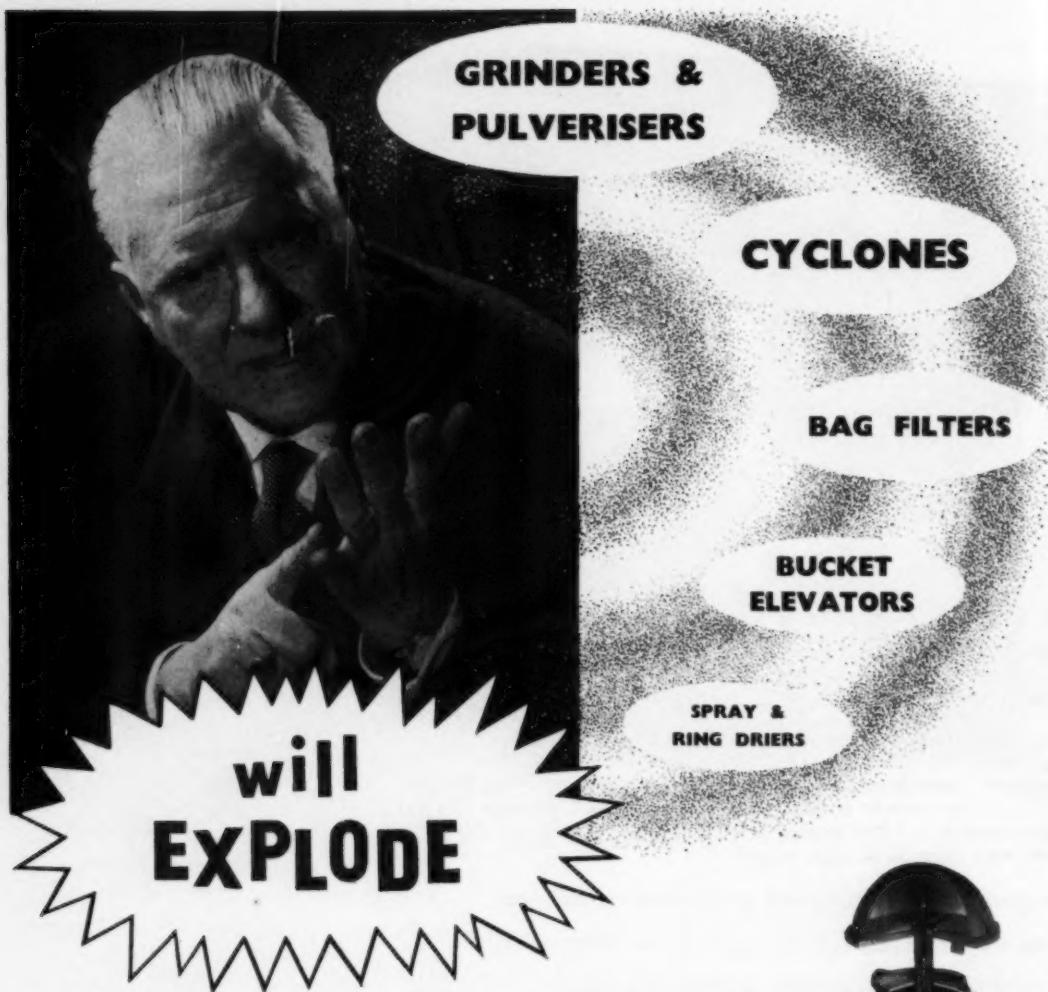
Harvey

G. A. HARVEY & CO. (LONDON) LTD., Woolwich Road, London, S.E.7. GReenwich 3232 (22 lines)
SEPTEMBER, 1957

Steel Filing Cabinets
in units of 1-5 drawers.
Multi-Drawer and
Jumbo Cabinets. Plan
Cabinets. Office and
desk accessories.



Steel Cupboards with
adjustable shelves or
Pigeon-holes. Sliding-
Door Cupboards. Clo-
thes Lockers. Steel
Shelving and Storage
Bins.



will EXPLODE

Violent explosions are all too common in plant where dust is produced. Such incidents not only cause severe damage to plant, stoppage of production for repairs, loss of orders and heavy capital outlay, but frequently involve serious injury and loss of life.

Dust explosions are not limited to inflammable matter, certain substances which will not readily burn in the bulk can be ignited from a variety of causes when suspended in dust form.

Our engineers are qualified to advise on all aspects of explosion protection. Whether it's new plant being designed or an existing installation, a consultation with us may save capital expenditure. Confidential and impartial reports are issued regarding the safety of any plant.

FAREHAM ROAD
GOSPORT · HANTS
Tel. GOSPORT 89175

GRAVINGER
MANUFACTURING CO. LTD.

Specialists in Industrial Thermostats, Overheat Switches and Airborne Fire Protection Equipment

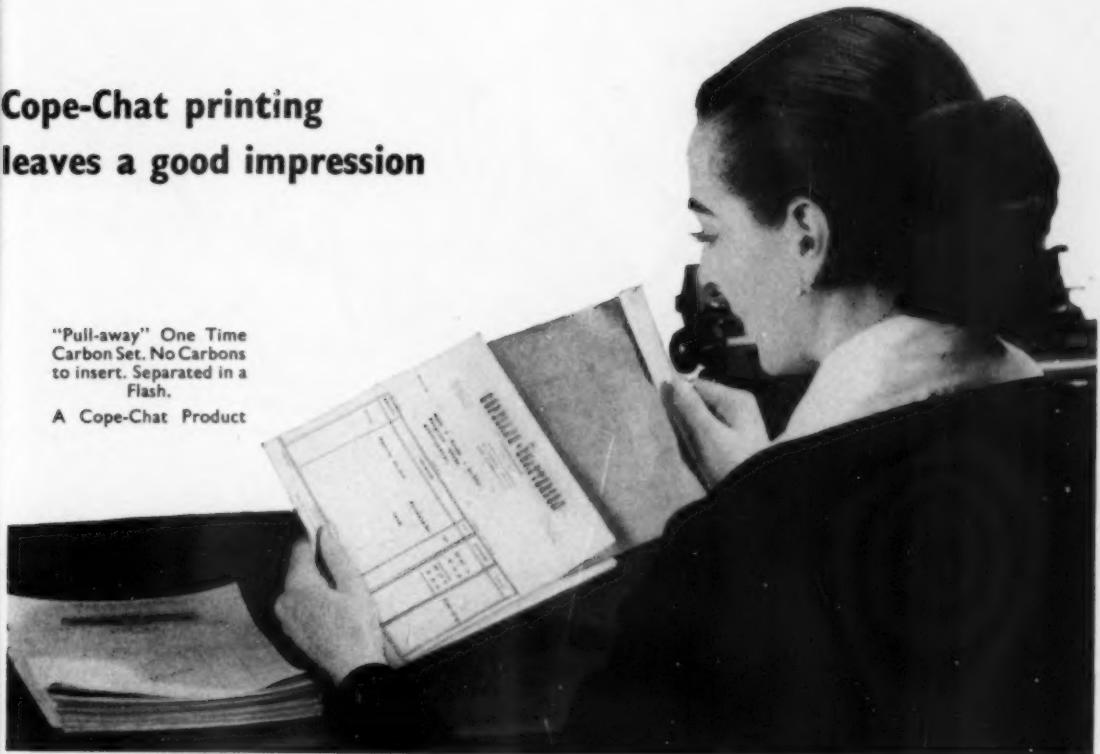
29 ST. JAMES STREET
LONDON, S.W. 1.
Tel. WHITEHALL 6478

BUSINESS

Cope-Chat printing leaves a good impression

"Pull-away" One Time
Carbon Set. No Carbons
to insert. Separated in a
flash.

A Cope-Chat Product



Cope-Chat modern plant, production methods and service in designing and manufacturing
economical business forms are without equal.

Our long experience in this field ensures the accurate registration and precision printing
which modern business records demand.

LEDGER CARDS
STATEMENTS
RECEIPT SETS
ONE-TIME CARBONS

We are especially equipped for
INVOICE SETS
ORDER FORMS
PAY ROLLS
CARBON-BACKED FORMS

CLOCK CARDS
STORES REQUISITIONS
WORKS DOCUMENTS
N.C.R. (No Carbon Required) PAPER

Complete and post this coupon today for full details of the
"Pull-away" Set

Name of Firm _____

Name and position of writer _____

Address _____

(Block Letters Please) PA-B-9-57

You can send your enquiries with confidence

THE COPELAND-CHATTERSON CO. LTD.

London Office & Showrooms: GATEWAY HOUSE, 1 WATLING
STREET, LONDON, E.C.4
Telephone CITY 2284

Registered Office & Works: STROUD, GLOS.
Branches at Birmingham, Bristol, Cardiff, Glasgow, Leicester, Leeds, Liverpool
Manchester, Newcastle-upon-Tyne and Sheffield
Agent in Ireland: 8 Crowe Street, Dundalk Agents throughout the World



he didn't know

Sellotape

REGD. TRADE MARK

simplifies the job

saves time—saves money

Everyone knows Sellotape sealing simplifies the job — everyone, that is, except our queer fish. But not everyone knows the *right* tape for the job. That's understandable, for Sellotape are constantly bringing out new tapes to cater for special needs. Knowing this, are you sure you still have the right tape for your job? Why not let our Sales Service Department advise you? Better still, let our technical representative demonstrate on your premises how Sellotape can save you time and money. Simply 'phone BISHOPSGATE 6511.

In the Sellotape group of Self-Adhesive products

TRANSPARENT CELLULOSE tape for sealing, holding, joining and binding. Used as a protective layer over labels, is G.P.O. approved for sealing registered letters and parcels.

COLOURED CELLULOSE tape. Particularly useful for coding, identifying and filing.

'WRITE-ON' Sellotape for stock control, bin labelling, coding. Specially prepared surface, takes ball point, pen and pencil.

Sellotape is the Registered Trade Mark of Adhesive Tapes Ltd.

Sois Distributors in the U.K.—THE INDUSTRIAL SELLOTAPE DIVISION of Gordon & Gotch Ltd., 8-10 Paul Street, London, E.C.2



materials
handling
efficiency
DEMANDS

KEE KLAMP
(REGD. TRADE MARK)
STORAGE RACKS

*Major industrial concerns have re-organized
their production policy round a Kee Klamp Racking
Installation. Kee Klamp construction ensures strength,
stability, adaptability—Kee Klamp planning can release valuable
space for production.*

A "racking" headache?—Ask for our advice; it is freely available.

The GEO. H. GASCOIGNE CO. LTD.

507 GASCOIGNE HOUSE, READING, BERKS. Telephone: READING 54417 (3 lines).

KEE KLAMPS are ideal for making WORK BENCHES · PARTITIONING · STAGING, etc.

I'm efficient!
I've got an AZOGRAPH

Clean-working AZOGRAPH duplicating saves so much time and material. This economical and entirely stain-free process eliminates smudged copies and dirty hands; operators are happier with AZOGRAPH, and its adaptability is amazing. Call, or write to the A. B. DICK CO. at the new London showrooms for full information on what AZOGRAPH can do for office efficiency.



AZOGRAPH

**The A. B. Dick Company
of Great Britain Ltd.**

London Showrooms: 140 THEOBALDS ROAD, W.C.1 (corner of Southampton Row). Tel: HOLborn 2245-6

ON LAND, SEA OR AIR...



**You can count on cable
jacketed with Du Pont neoprene**

Durable jacketing of Du Pont neoprene lowers maintenance and replacement costs wherever cable is used. It resists sunlight, weathering and heat on aerial cable . . . withstands soil acids and electrolytic attack on cable buried directly in earth . . . stands up to salt water, oil and grease on cables aboard ship. You can count on extra durability, maximum protection when your cable is jacketed with Du Pont neoprene. Ask your supplier to show you his stock of neoprene-jacketed cable.

Neoprene/Hypalon products are made in this country. For details of suppliers or any other information required, please write to the sole distributors in the U.K.

Durham Raw Materials Ltd • 1-4 Great Tower Street • London • EC3

● New ways in which neoprene-made products effect savings for you are contained in every issue of the Neoprene Notebook. New and unusual applications are clearly shown. Get on the mailing list. Fill out and mail the coupon today.



NEOPRENE

Better things for better living . . . through chemistry

SEPTEMBER, 1957

E.I. du Pont de Nemours & Co. (Inc.),
Export Advertising, Elastomers Dept. B.12,
Wilmington, 98, Delaware, U.S.A.

Name _____ Position _____

Firm _____

Address _____

Murray's (High Wycombe) Limited



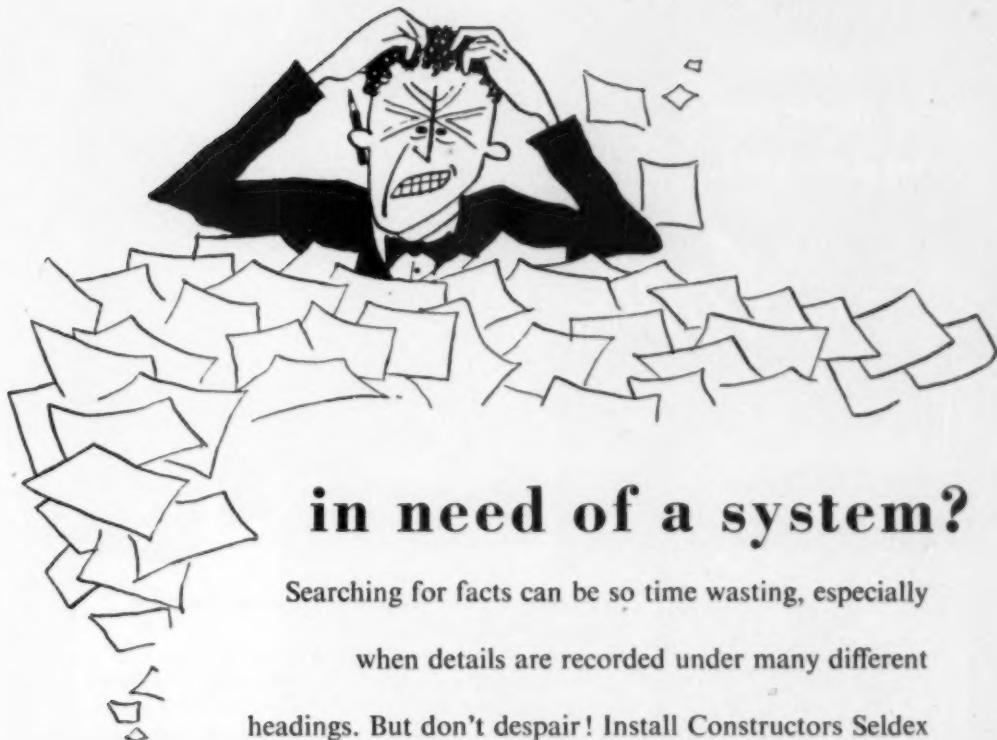
department store locates staff in seconds

There are no flashing lights, distracting bells, buzzers or loudspeakers in this modern 5 storey department store, opened this year by Murray's, High Wycombe, Ltd. because internal communication is handled by the Multitone Personal Call staff location system. Senior members of the staff carry light pocket receivers, only 5 in. long and 1 in. diameter. To call anyone carrying a receiver, anywhere in the building, the switchboard operator sends out a signal which affects only that particular receiver. A direct spoken message can follow if required.

A complete installation of this type, with up to 50 receivers can be installed on easy rental terms, inclusive of maintenance, or low outright purchase price. This personal call system could save time and trouble in *your* building. Write and we'll send you details.

multitone personal call STAFF LOCATION SYSTEM

Multitone Electric Company Ltd., 12-20 Underwood Street, London, N.I. Tel: Clerkenwell 8022



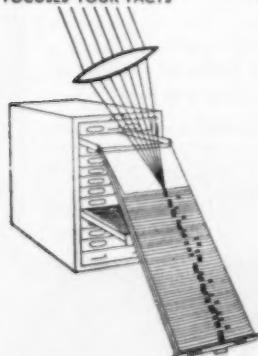
in need of a system?

Searching for facts can be so time wasting, especially when details are recorded under many different headings. But don't despair! Install Constructors Seldex System and you'll be able to find *all* the answers at a glance. Constructors Seldex System is planned to ease the burden of today's business and we will be pleased to give all possible help and advice with your problem.

SELDEX

VISIBLE RECORDING
EQUIPMENT

FOCUSES YOUR FACTS



CONSTRUCTORS

FOR FACTORY EQUIPMENT & OFFICE FURNITURE

POST COUPON TODAY to Constructors Group, Dept. G, Tyburn Road,
Birmingham 24.
Please send, without obligation,
details of Constructors Seldex
Visible Recording Systems for use
in Dept. Name
Firm Address

it's quieter
and roomier
inside this

New look

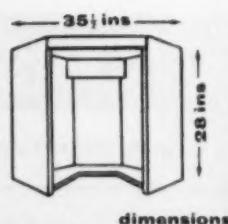
BURGESS
acousti-booth



pillar
mounting



wall-booth
mounting



dimensions

for quiet
amid clatter

Acousti-booths by **BURGESS**



Completely restyled for maximum sound-absorption and greater adaptability.

Geometrically-planned: the new octagonal plan form has been specially evolved to enable several booths to be grouped around a pillar or 'island' and for oblique wall-mounting (see inset) which reduces sound intrusion to a minimum.

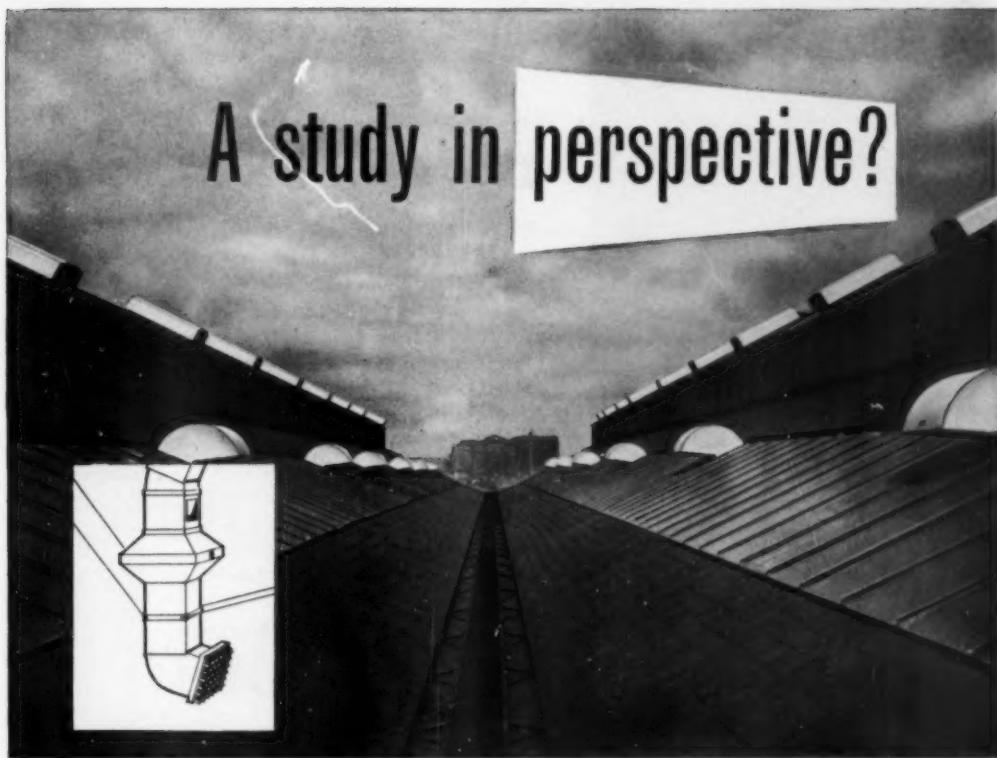
'Acousti-pad' lining throughout: interior walls and ceiling are formed of Burgess Acousti-pad quietening medium—a lamination of perforated steel sheet and a thick sound-absorbent 'blanket'. The efficiency of this material in 'soaking up' extraneous noise can be assessed by the fact that, for many years, it has been used exclusively in all standard and special types of Burgess Acousti-booths.

Increased shelf area: ample shelf space has been provided in this 'new look' Acousti-booth for phones, message pads, directories, etc. Built-in lighting panel: including a diffusing panel and bracket for light switch.

Simplified fixing: the booth is easily transportable, and recessed fixing points facilitate right- or left-facing installation on walls or pillars. It is simply 'hung' in the required position.

Smart functional finish: all surfaces are smooth and easily-cleaned, stove-enamelled in Hammer Grey.

Write for illustrated brochure to
BURGESS PRODUCTS CO. LTD., Acoustical Division,
HINCKLEY, LEICESTERSHIRE



Colt SRC.2060 Ventilators and Roof Inflow Units at Venesta Ltd., Silvertown, London.

Yes; but more than that, much more.

Colts were called in by Venesta Ltd. because an expansion programme involving the installation of new, more powerful plant in 'F' block of their factory, foreshadowed a further deterioration in the already overheated working environment.

The problem was to provide the additional ventilation, dust-free and with positive air movement at the various working positions to offset the effects of radiant heat from the plant. A comprehensive system involving SRC.2060 Roof Extract and Mechanical Filtered air inlets with a capacity of 8,550,000 c.f.h. was designed

and installed.

So to Colts this is a picture of a problem solved. To Venesta Ltd., it means satisfactory working conditions and higher output. Indeed results have been so satisfactory that since this photograph was taken yet a further block has been similarly treated.

Take advantage of Colts' practical experience in solving similar problems for over 10,500 industrial organisations. Their Technical Staff is always at hand to adapt this knowledge to your specific needs, to meet your particular requirements.

Let Colts solve YOUR problem.

COLT

Send for Free Manual on Colt Ventilation to Dept. 012/9

VENTILATION

COLT VENTILATION LTD · SURBITON · SURREY
TELEPHONE: ELMBRIDGE 6511 (10 lines)

U.S.A. Subsidiary: Colt Ventilation of America Inc., Los Angeles.
 Branches at: Birmingham, Bradford, Bridgend (Glam.), Bristol, Dublin, Glasgow, Leamington Spa, Liverpool, London, Manchester,
 Newcastle-upon-Tyne and Sheffield. • Agents in: Australia, Belgian Congo, Belgium, Burma, Canada, Cyprus, India, Indonesia,
 Madagascar, Malaya, Mauritius, New Zealand, Pakistan, Portugal, Rhodesia and Nyasaland, South Africa, and West Indies.

G606A



£27 $\frac{1}{2}$ million lost each year

A high proportion of this deplorable loss could be avoided by early fire warning and accurate location, such as the installation of a Siemens-Ediswan Fire Alarm System unfailingly ensures. Developed after many years of telephone and alarm system experience, Siemens-Ediswan Fire Alarm Systems are available on a *Rental Basis*, with regular inspection and maintenance visits by our own engineers, or alternatively on *Outright Sale*, with 12 months' free maintenance and subsequent maintenance contracts as required.

Salient features of this System include:

- * Central indicator panel laid out as a formalised map
- * Provision for linking to local fire station.



Fire Alarm System

For further details enquire:

SIEMENS EDISON SWAN LTD

An AEI Company

Private Telephone Division, Siemens House,
No 3 Avon Trading Estate, Avonmore Road,
West Kensington, London W14 Tel. FULham 9471

P.T.O.L.
BUSINESS

A 'Business' Panel Discusses Three Questions

1

Does the question of 'Who Owns What' matter in public affairs today?

2

How important to the individual, psychologically, is 'a stake in the enterprise'?

3

Is employee shareholding worth encouraging as a way of getting more savings for investment?

Should Employees Own Shares?

The Panel

SIR NUTCOMBE HUME, C.B.E.
(Panel Chairman)
Chairman,
Charterhouse Industrial Development Co. Ltd.

**The Rt. Hon. R. R. STOKES, P.C.,
M.P. (Lab.)***
Chairman and Managing Director,
Ransomes and Rapier Ltd.

E. H. C. LEATHER, M.P. (Cons.)

DONALD WADE, M.P. (Lib.)

F. HILL,
Head of Pension and Assistance Funds
Department,
Imperial Chemical Industries Ltd.

H. L. BINGHAM,
Head of Managing Director's Department,
Courtaulds Ltd.

E. FLETCHER,
Secretary of T.U.C. Production Department

QUESTION 1: Does the question of 'Who Owns What' matter in public affairs today?

FLETCHER: It really does matter a great deal who owns property. The people who say it doesn't matter are usually those who own the property themselves anyway. There is usually a great deal of double-think in this. I am reminded of the reaction to a report that the Volkswagen car plant in Germany was going to be denationalized. *The Financial Times* inter-

viewed a lot of gentlemen in the car industry, who said it was a magnificent thing for the British car industry, because it would force up the price of German cars and ours would then sell better.

LEATHER: As one who doesn't own much property, I believe that ownership doesn't matter much to the ordinary chap in industry. It matters

a great deal to people who spend their time thinking and writing about these things. But the experience of nationalization is that the question of ownership doesn't matter at all to the workers in the nationalized industries.

The fact that the shares of the coal companies, the railways and a couple of other industries have been taken

* Mr. Stokes took part in the discussion a few days before the road accident which preceded his untimely death.



R. R. STOKES, M.P.

What the average man wants
is more money in his
Friday paypacket



E. FLETCHER

The people who say it doesn't
matter are usually those
who own the property
themselves



SIR NUTCOMBE HUME

I, personally, don't mind
if the employees end up
having the right to kick
the board out

over by the State, has not in practice made the workers behave any differently from those of any other company in the country. Labour relations are, if anything, a bit worse.

Employee shareholding has not had any good done to it by exaggerating the possibilities. It is just one of a number of weapons available to good management.

WADE: Although I'm a keen advocate of employee shareholding, I have never suggested that it can take the place of good relationships between management and men. But I think

this question of ownership does matter, partly for social reasons and partly for political ones. Personal ownership has an important social value. There is something very satisfying about owning one's furniture and house and, so far as is practicable in the modern world, the tools with which one earns a living.

But it isn't practicable for everyone to own his own business, and the next best thing is to have a share in the firm where one works.

We cannot go back to the old kind of capitalism in which all the capital

is held by one or two people. But I am not in favour of an extension of ownership by the State. So we must find some method of spreading individual ownership widely. And I think employee shareholding is one of the means.

I don't think the feeling of ownership is a real one, where it is nominal only through the medium of the State. That is too wide. But you feel you have a real share in a concern if it is the firm in which you work or one where you have invested some money, know quite a lot about the

business and are interested in it.

FLETCHER: Is participation through the State very different from being a shareholder in I.C.I.—one of many thousand shareholders who never turn up at meetings?

WADE: If you had only shares bought on the Stock Exchange I don't think that would be enough. That's why I like to see employee shareholding. I'm not employed by I.C.I., I am a subject of the State. However I think I would have rather more sense of ownership if I had shares in I.C.I. than I do merely by knowing that the State owns the railways.

LEATHER: And you would, after all, get a dividend.

SIR NUTCOMBE: And you would receive the annual report addressed to you personally.

STOKES: This business of who owns what can't be ignored because it is a considerable part of the policy of my own party. But there is plenty of room for private enterprise in a socialist State, provided it behaves properly, and my own belief is that ownership strictly doesn't matter. I would control ownership by controlling divi-

dends, by controlling the way in which bonus issues are made, and so on.

I don't see why on earth we should rob the workers of their hard-earned income in order to buy out private interests. Apart from monopolies—and I've always said that monopolies should be nationalized—we can get what we want by direction and control, without squandering the public's money on buying out the people who robbed us during past generations. That's paying hard cash for their ill-gotten gains, and I'm absolutely averse to that idea. I'm far more socialist than the extreme left-wing socialist!

BINGHAM: I want to stress the long-term social development aspect of this problem. The capitalist system, as we know it, is a very different thing from that which was pictured by the classical economists. Development of the joint stock system has enabled ownership to spread. Also the trade unions have altered the position of the worker. And there has been the development of large institutional investors. One might almost say the typical large share-

holder today is the Miners' Pension Fund, but in future, it seems, the State superannuation scheme is also going to be a big shareholder. But this spread of ownership has, on the whole, stopped short of the manual worker.

In my view the old idea of industry consisting of two sides who are inevitably and necessarily opposed to one another, should be well on the way out. To my mind capitalism is a developing system. We must not regard it as static. A number of people have been experimenting with ideas on its development. For example, the John Lewis Partnership. My own company — Courtaulds — and I.C.I. have thought on similar lines to each other. We toyed with various possibilities of dishing out cash bonuses, shares with various tags attached to them, and workers' banks. We came to the conclusion that the thing which best reflected the idea of co-partnership was simply extending the field of ownership, and at the same time enabling the worker to feel that he was part of the firm.¹

We are all workers today. And if we are all workers, the opposite



E. H. C. LEATHER, M.P.

Savings grow with appetite.
You start one of these
schemes, and there is a
snowball effect

F. HILL

I firmly believe that an employee's stake in his own business is all to the good



follows naturally, that we should all be capitalists. My company came to the conclusion that the best way of achieving this was by the issue of ordinary shares without any strings attached to them whatever. The employee, if he likes, can go and sell them the day after he gets them. In practice, of course, they don't.

There is also, I think, an educative aspect to this. We have been trying for some years to have in our company what we call a campaign of financial and economic enlightenment. It has taken various forms—explanation of the company's accounts, articles in our magazines, and discussion groups. People were called in to talk to our works councils, all with the idea of making the company's affairs—and not only the company itself but the company in its setting of the national economy—rather better understood.

I don't think we should have got very far with the co-partnership scheme if we hadn't had the other campaign. The share scheme is the practical side of the campaign. Having told people all about shares and what they are, how they are issued and how you buy and sell them on the Stock Exchange, and having even sent people to look at the Stock Exchange, you give them shares and say: "Here you are, you now possess a stake in the company. Do what you like with it."

Even if a man goes and sells it within a week, to some extent it has served its purpose. He has learned something about what shareholding is, about transfers, Stock Exchange prices, possibly dividends. Of course, we hope to build up a body of employee shareholders who will in time have an appreciable stake in the business.

STOKES: You can't do that unless you have got a lot of cake to share.

BINGHAM: What we are really doing is capitalizing the reserves which the people's efforts have helped to create. We are keeping the money in the business. We need it there anyway, for expansion. But we say that we will allocate the right to some of it to the employees, by issuing shares.

FLETCHER: I'm in favour of that. I think that both the I.C.I. and Courtaulds schemes were introduced with the support of the trade unions.

Back in the '30s or earlier, co-partnership schemes were introduced to increase the loyalty of the individual operative to the firm, in opposition to his loyalty to the trade union. But you have to accept the fact that in a democratic society, each individual is a synthesis of a variety of loyalties—to the country, to the firm, to his trade union, to his church, to the British Legion, or whatever it may be. Once the union is properly recognized, the attitude towards co-partnership is different.

At both I.C.I. and Courtaulds the union is recognized. But there is this synthesis of loyalties to take into account, and although they can harmonize for a greater part of the time, we must expect them to disagree on occasions. It is not true that there are no longer two sides in industry. Of course, industry is multilateral.

BINGHAM: There are certainly different interests in industry. But there is also a unity of interests.

SIR NUTCOMBE: I am always very

against this idea of two sides of industry. I don't believe there are two sides of industry. We are all on the same side.

FLETCHER: What's the matter with a side? I still play games.

SIR NUTCOMBE: I know, but you try to beat the other man if you are on a side, and I don't believe there should be two sides trying to beat each other in industry.

If I may sum up our discussion so far, it seems to me that who owns the capital is of relatively little importance, as long as the working population are left with a feeling that they are getting a fair share of the products of their work. If that filters through to them as a result of schemes by which employees receive share certificates in their company—then these schemes are of value.

I understand that in the I.C.I. and Courtaulds schemes the funds allocated to employees are used to subscribe for new capital. In this way the money is canalized back into the company but it gives the employees an ever-increasing stake, relative to the other proprietors. So they are in fact getting a bit more of the cake all the time.

QUESTION 2: *How important to the individual, psychologically, is 'a stake in the enterprise'?*

HILL: Precisely what do we mean by 'a stake in the enterprise'? There are two possibilities. First, the individual is given some interest in his work by means of a special class of shares. They are not marketable, probably they are not voting, and they probably carry an arbitrary right to be given a certain percentage of interest or dividend, as the case might be.

Second, you enable the employee to become a shareholder in the full sense of the word. He gets a marketable investment and is on all fours with every other shareholder.

We in I.C.I. have taken this second line. We think it is of paramount importance. Any scheme that gives

employees limited rights is not employee shareholding in the true sense of the word.

I don't think the idea of a stake in the enterprise is of widespread importance at the moment. But I very much hope it will become more important—that more people will have a shareholding. If an employee of a company can tell himself quite truthfully that he owns a little bit of the company—it may be only £50 worth out of £140 million—that's a matter of importance.

SIR NUTCOMBE: I believe that the idea of a 'property-owning democracy' has a definite value. A man who owns his own house is probably a better citizen than the man who rents one. Likewise the direct ownership



DONALD WADE, M.P.

It isn't practicable for everyone to own his own business. The next best thing is to have a share in the firm

of shares may have some value. But I think it ranks as of small importance compared with the value of good leadership. It is most important that a man be encouraged to give of his best, and made to feel that he is getting adequately rewarded for what he has done.

Jenson and Nicholson, the paint manufacturers, of which I am a director, introduced two years ago a scheme very comparable with those of I.C.I. and Courtaulds. The employees receive an annual bonus that is related to the dividend paid. The bonus is used to subscribe for shares in the company which are allotted to the individual in minimum units of 15 shares. These shares are fully comparable with those held by any other shareholder, and the employees are free to keep, sell or do what they like with them.

Our experience to date is that 85 per cent of the shares so allotted are retained by the employee. And there is every indication that they value this shareholding as making them partners in the enterprise. I believe this is mainly because there is no special kind of tag on the shares.

H. L. BINGHAM

If we are all workers today, the opposite follows, that we should all be capitalists



FLETCHER: I don't think we should forget that an individual has a stake in a company anyway, whether he owns a share or not. He gets his pay packet. His livelihood, or at least his continuity of employment is dependent on it.

STOKES: What the average man wants is more money in his Friday pay packet. And as responsible people in industry we have got to differentiate between what could be more spending money for him and what is desirable in the way of investment on his behalf. You can't expect him to put anything aside for investment out of inadequate pay.

I don't mess around with my industry, offering employees the opportunity of taking a share in the industry, when I want them to have an opportunity of taking a larger share of the cake. If, as a result of getting a larger slice, they can put a bit aside for voluntary investment, by all means let them do so. But as for share bonuses—some people, to my way of thinking, regard them as a bribe to keep the workers quiet. I don't regard them like that. All bonuses are really a capitalization of reserves that have been created as a

result of efforts by the workers as a whole, from managing director to office boy. When these bonuses are paid out, the workers ought to have a share in some form or another.

HILL: That's just what I.C.I. and Courtaulds do.

SIR NUTCOMBE: And Jenson and Nicholson. None of these schemes is really an alternative to raising wages. They are not a substitute for giving more pay on a Friday, they are an addition. If you abandoned these schemes, would you in fact be able to increase wages? I doubt it.

I can't speak for the other two great companies represented here. But speaking for our own employee shareholding scheme, which is comparable with theirs, I believe that if it did not exist, the company would not be able to pay a higher dividend in cash to its existing proprietors. The secret of the scheme is that the cash dispersed, less tax paid by the individual, is canalized back into the company. This has the effect of altering the ownership of the company in favour of the employees against the original capitalists. It is a method of saying, "You've earned an increasing share in the ownership

of this business. If you carry it to finality, you employees will own more of the capital than the original shareholders."

FLETCHER: That will be very entertaining.

SIR NUTCOMBE: Well, it can happen. I don't know whether you have worked it out, but within half a century it could happen. And do any of us mind that? I, personally, don't mind in the least, that the several thousand employees of my company

should end up by having the right, if they care to collaborate by turning up at meetings, to kick the board out of office.

BINGHAM: Yes, I think in one form or other employees generally, in the course of time, are bound to take a larger share in the direction of industry. I say *direction*, not *management*. And this may be one of the ways by which it comes about. In fact, I would rather it came about this way than any other.

QUESTION 3: Is employee shareholding worth encouraging as a way of getting more savings for investment?

HILL: In recent years there has been a lot of temporary saving by all sorts of people—saving for holidays, saving for the daughter's wedding, and so on. Anything that can be done to encourage permanent saving is of vital importance. And I don't think it is appreciated by many members of the payroll classes and many junior management people that saving is not an easy business.

FLETCHER: The payroll classes realize that more than anyone else. Saving is not an easy business.

HILL: The impression some people have is that a certain class of people can save without any bother at all. I don't subscribe to that view. The people who save are those who do it by way of a deliberate, conscious action. And in many cases it involves sacrifice, really foregoing something they would like to have. We must get over to all grades of people the fact that saving is of vital importance.

SIR NUTCOMBE: Yes, but the individual must also be convinced that saving is in fact a better proposition for him than spending. And that is one of the best reasons for suggesting these shareholding schemes, because they bring that question home.

LEATHER: One of the arguments always used by academics against these schemes is that they just divert a certain amount of saving from one source to another, and they don't add anything. That, funnily enough, was the primary argument put up

against the premium bond scheme. But it has been proved wrong. When you do provide a new incentive, and you do it successfully, to catch someone's imagination, you can produce more savings.

Also, on the question whether the shares should belong to individuals or the State, I would say experience has shown that Sir Stafford Cripps' great idea—forced savings by huge Budget surpluses—in fact defeats itself. In practice, when the State attempts to build up a surplus, it is whittled away in dribs and drabs. Soon it is all spent. You haven't saved anything, either in money or in real resources. You have merely transferred the joy of spending it from the individual to the politician or civil servant.

If we are greatly to increase the national savings, then employee share schemes are one of the ways in which we must do it. The State way does not succeed.

FLETCHER: Obviously it is good that every family should have some savings, for family security. But co-partnership schemes don't really tackle the national problem of inadequate savings. They represent a transfer of savings already made rather than the generation of new savings. Moreover, the funds set aside are allowed as an expense, for tax purposes, so in effect the Government, through the tax system, contributes some of the cash alleged to have been saved.

HILL: I disagree. The company has to pay tax on its profits, irrespective of whether those profits are channelled into dividends or whether they are channelled into reserves.

SIR NUTCOMBE: The company is better off because it has more money for capital development than if it had paid a cash bonus which was not reinvested in shares.

HILL: We have spread a tax liability from the company over all the people employed by us, some of whom pay tax at higher rates than the company.

LEATHER: Savings, like anything else in this life, grow with appetite. I have seen a case in my own company where an individual had his whole outlook on life completely altered. He came to us one day with an awful housing problem. When we pointed out to him that on the wage he was earning, we could do a little bit to help him and it would be a very short time before he could pay the deposit to a building society and own his own house, it struck him as something absolutely new. He had always accepted the idea: "I'm just a clerk and I'm going to live in a council house all my life. I can never get anywhere." The realization that he could save changed his whole outlook.

The chairman said earlier that the man who owns his house is a better citizen than the man who rents it. I think that is basically true. We're in a stage now of complete democracy, one head one vote, and the most ignorant person has as much power to cast his vote as the chairman of one of these great companies. Therefore the more that can be done to bring home the facts of economic life, the better.

Every experience one has of these shareholding schemes indicates that when you do start, there is a snowball effect.

BINGHAM: I have spoken to a number of our chaps on the shop floor. Some of them have bought some additional shares themselves, after receiving their issue. They rather liked the idea, because the shares gave them a degree of protection against inflation.

END

Feeding the Grapevine

Don't under-rate the influence of the stores assistant. A chip on *his* shoulder may spread through the business

By P. W. S. ANDREWS,
Fellow of Nuffield College, Oxford

IN most companies there are well-organized facilities for transmitting instructions to those who have to carry them out. Today, however, management generally recognize that it is equally important to make available more general information on the business and the people who work in it. This is because the quality with which instructions are carried out depends on the employees' appreciation of the environment in which they are given.

Here management comes up against the fact that every business has its own independent information system—the grapevine. Information disseminated in this way is not necessarily accurate and is subject to twists of personal bias on the part of everyone who passes it on; but it is often surprisingly rapid and effective in its operation.

The grapevine has a 'tone' of its own which at any one time reflects the general health of the whole works. But since it contributes directly to minor day-to-day illnesses it has some bearing on the future overall balance of health. When I follow informal

contacts around a works during a major study, I have learned to pay a lot of attention to the emotional content of this kind of unorganized information as well, as of course, to the accuracy of the 'facts' that are passed on.

However unorganized it may appear, the grapevine has its own natural centres of information—the more humble information exchanges at lower levels within a business. I doubt if most managements pay sufficient attention to the informational quality of those who are appointed to humdrum and minor

jobs which nevertheless involve contacts with relatively large numbers of workpeople.

The stores assistant is generally the outstanding example of the kind of situation I have in mind. (In some works other jobs may be of equal or greater importance, of course, and the whole point of my article is that management must think more carefully about this aspect of all appointments, however humble.)

The post of stores assistant is usually filled, at a relatively low rate of pay, with regard chiefly to such obvious requirements as the ability to be trusted with valuable stock—and the requirements in that respect are increasingly lowered with the development of more efficient accounting checks and procedures. There is far too little regard to the unofficial place which the stores assistant has in his community.

Watch any such man at work and notice the brief exchanges going on the whole time at his little window. It will be obvious that the stores assistant is a general receiver of tit-bits of news and a general purveyor of information. Quite apart from the formal efficiency with which he sifts and disseminates bits of information, gossip and jokes, his general attitude to life can play a big part in the morale of his part of the works.

I remember one works where an efficiency team discovered that a storekeeper in the department where they were working—a man with a chip on his shoulder—was, consciously or unconsciously, working against their attempts to establish a pay system which would produce good continuous effort. The jibes

Continued on page 154

In one factory the storekeeper—by jibes at any signs of extra zeal—did a great deal to undermine the efforts of an efficiency team to establish an incentive payments system



Radio-isotopes are cheap, easy to use, safer



Have You a Job for

Radioactivity?

By PETER SPOONER

RADIO-ACTIVE isotopes have come a long way since the first commercial consignment was despatched from Harwell in 1947. But today they have in front of them a longer and even more exciting journey.

In the U.S.A. it is estimated that radio-isotopes are now saving industry about £180 million a year. By 1962 this figure may be ten times as high. Most of the increase, in the opinion of the U.S. Atomic Energy Commissioner, will come from applications which are as yet undeveloped. He foresees the time when isotopes will not only help firms to study and measure the results of industrial processes, but will also play a vital role in automatically controlling them.

Because radio-isotopes are products of the Nuclear Age (and so often

identified with the portentous label 'Atoms for Peace'), the businessman sometimes regards them with more awe than they actually merit. They belong, he thinks, in research laboratories and special departments set up by big firms. For the ordinary business, they are too expensive, too difficult and too dangerous.

These points are quickly answered.

Expensive? Radioactive techniques are generally much cheaper than the clumsier methods which they supersede. Equipment is simple: there are no moving parts, little maintenance.

Difficult? New users are continually being astonished at the uncom-

Radio-isotopes are produced for many different purposes. The materials are packed in standard cans before being 'cooked' in the atomic pile



than you think. They save money in many ways

plicated way in which most of the techniques are applied.

Dangerous? Not if sensible precautions are taken. (After all, a hammer is a dangerous industrial tool if you drop it on someone's head.)

Key Properties

Radio-isotopes have many properties which can be used in industry. The most important are:

1—They emit what are in effect miniature radio signals, so that even minute quantities can be detected and measured accurately by geiger counters and other electronic instruments. *This property is used in tracer techniques, permitting the detailed observation of processes which might otherwise have to be taken for granted.*

2—Their radiation penetrates solids or liquids but is progressively absorbed by the material through which

it passes. *This property is used in thickness or density gauging, and in radiography.*

3—Their radiation 'ionizes' the surrounding air. *This property is used in the elimination of static electricity.*

How these major uses are now being applied and developed is described below.

Thickness Gauging

Gauges based on the transmission of beta rays are now widely used in many industries. They continuously measure the thickness of sheet or strip materials — paper, plastics, rubber, steel strip, aluminium foil, linoleum, etc.

Here is the basic set-up:



Such devices are compact, fool proof and comparatively cheap. The detection unit is of about the same size as a camera. Because thin materials are penetrated by radiation from low-strength isotopes, only light screening is needed.

For measuring thicker materials transmission gauges using gamma-type isotopes are available. These can handle strip steel up to 3in. thick.

What transmission gauges really measure is weight per unit area. But where the density of the material is fairly constant, conversion to thickness units is simple.

Results may be recorded on dials or on a system of lights which builds up a history of the thickness variations in each strip or sheet. At the same time, a continuous record of the readings can be made automatically on magnetic wire.

Big advantage of radioactive thickness gauging is that nothing actually



How They Are Made

► Any natural element can be made radioactive by exposing it for a time inside an atomic pile. During this period of irradiation some of its atoms become 'super-charged'.

► When they leave the pile these radio-isotopes continuously emit radioactivity in a scrabble to regain their former stable condition. Some types of radio-isotopes do this in a matter of days. Others take hundreds or even thousands of years. The time is generally stated in terms of 'half life'—that is, the period during which the strength of the isotope is successively halved.

► In other respects radioactive elements

behave in exactly the same way as their stable counterparts. They can be made into compounds to suit different applications.

► The activity which they emit may consist mainly of beta particles or gamma rays. Practical difference is that gamma rays have much greater powers of penetration.

► The choice of material, the time it is 'cooked' in the pile and other factors are governed by the purpose for which radio-isotopes are needed. There are, in fact, hundreds of different types.

► Some radioactive materials can be obtained in another way: by extracting them from fission waste. This is a new development and at present the range is limited.



touches the material. There are no moving parts to wear out or need adjustment, and as a rule the radio-isotopes used for this purpose have a long effective life.

In future much greater use may be made of feedback devices which enable the strip- or sheet-making process to be controlled automatically as the measurements are made. At present this is done only on a limited scale.

A less common piece of equipment is the scatterback gauge, which measures thickness where only one side of the material is accessible. **Outstanding application:** determining the thickness of paint, metal plating and other coatings.

The principle is that the strength of backscattered radiations are mathematically related to the density of the target material. The gauge works like this:



To streamline the equipment where strong gamma-type isotopes are used, scientists have developed the scintillation counter, a detection device which can distinguish between direct radiations and those which are back-scattered. This means that it is unnecessary to interpose a heavy lead shield between the radioactive source and the detector.

The equipment is versatile. For some years an oil company have been using a Harwell-built scatterback gauge to monitor the wall-thickness of pipes and detect local corrosion.

An important variation of thickness (or density) gauging is checking the performance of automatic packaging machines without weighing the packets individually. In this case a radioactive source is placed at one side of a conveyer belt, so that beta radiation

penetrates each packet in turn. If the packet is full, all (or most) of the radiation is absorbed; if it is only partly-filled some reaches a detector at the opposite side of the belt. The detector can be made to actuate an automatic ejection device.

Such equipment is now being used for routine checks on packaged products ranging from soapflakes to toothpaste.

Other variations of density gauging are either in use or under investigation. They include:

- Checking the density of tobacco in cigarettes.
- Measuring the hydrogen content of liquid fuels.
- Checking the density of fluids passing through enclosed pipes.
- Automatically separating coal and shale at the pithead.
- Determining the water content of grain, ceramic materials, etc.

Radiography

The introduction of gamma-type isotopes has considerably enlarged the scope of industrial radiography. They are now being used by a number of firms for the economical non-destructive testing of castings, welded sections, etc.

Radio-isotopes score in many ways. Primarily:

Cost. They are much cheaper than the alternative sources of gamma radiation—X-ray machines and natural radium.

Convenience. They can be used in positions inaccessible to X-ray equipment. (Pipe welds, for example, can be examined by placing an isotope in the pipe and wrapping X-ray film around it.)

Simplicity. No need for electric mains; no maintenance; no cooling.

Versatility. Since gamma rays are emitted in all directions, small components can be mass-radiographed by grouping them around the isotope.

Strength. By using the isotope

Cobalt 60, radiographs of steel sections up to 6in. thick can be obtained. This equals the penetrating power of a 2 million volt X-ray machine.

Drawbacks are that (1) fairly long exposures are needed; (2) definition is not as good as with other methods.

For a firm to set up their own radiographic room is not particularly expensive. **Essentials:** A bay which can be adequately shielded when radiographs are being made; a 'bomb' in which the radioactive material is housed until it is released by long-handled keys; X-ray films and film-holders; a photographic darkroom. And, of course, a radiographer—the man who evaluates the results.

Tracer Techniques

Here is a particularly promising field for the use of radio-isotopes by firms of many types and sizes. Some applications are established—and new ones are being developed rapidly.

Geiger counters and other instruments can detect very small amounts of radioactivity. For this reason low-strength, short-lived isotopes can be used to 'label' elements—solids, liquids or gases—so that their behaviour can be observed and recorded.

The chemical properties of an element are not changed when it is made radioactive. Therefore tracer techniques give an accurate picture of what happens normally in the process under observation.

It is not only in research work that tracers are proving of immense value. Equally important uses are now being found in many types of quality control. These examples show the possibilities:

The efficiency of industrial mixing processes can be established by adding radioactive material to one of the constituents. After mixing, activity tests reveal whether or not the constituent has been distributed evenly. This is much simpler than making chemical analyses of a large number

Isotopes Check Foundry Methods

K. & L. Steelfounders Ltd., Letchworth, use radio-isotopes for the proving and quality control of castings. X-rays are used, too, but can only handle sections up to 2½in. thick. Gamma-type isotopes extend the thickness range to 6in. of steel

of samples. The short-lived isotopes are of such low strength that in most cases it would be possible for an operator to eat pounds of the mixture without coming to any harm. Within a few days, moreover, all trace of radioactivity has disappeared from the mixing plant. Generally this technique is used to establish, once and for all, that the plant does what it is meant to do when certain ingredients are added in certain proportions.

Shell-Mex and B.P. Ltd. use radioactive piston rings (the rings themselves being 'cooked' in the atomic pile) for research into the efficiency of lubricants. While the test engine is running, minute particles of the ring are worn off and carried away by the lubricating oil: the rate of wear is then determined by measuring the amount of radioactivity in the oil. In the same way engine components can be put through a complex series of tests without periodically having to dismantle the engine for inspection.

Another firm have used radioactivity to test the wear of cutting tools. Specially-designed tungsten carbide tips were 'cooked' before being attached to shanks. Tests were then made by measuring the amount of radioactivity in the wear debris.

Builders and civil engineers can check newly-laid water mains by passing through them, at the normal pressure, a solution containing low-strength sodium isotopes. If any solution leaks into the surrounding soil its presence is revealed by probe detectors.

To check oil pipelines a radioactive liquid is injected into the soil. Later a self-contained leak-detector is passed through the pipe. This incorpo-



TIME IS SAVED

by grouping small castings around the bomb housing the isotope. No camera is used—X-ray film holders simply stand behind the castings

MONEY IS SAVED

by non-destructive testing. In the past thick castings had to be cut into sections for inspection. Now radiography with isotopes establishes the correct casting methods much faster, ensures greater consistency in production





ates a miniature wire recorder, which records a series of clicks if the unit passes a leak.

Radioactive gases are used to check the efficiency of **ventilating systems**. The air exchange in mines, large workshops, etc., can be measured accurately in a very short time.

Cylinders used in **pneumatic tube conveyer systems** can be labelled with a dab of radioactive paint. If a cylinder gets stuck there is no need to break open the tubes at different points in a hit-and-miss attempt to find it—a geiger counter does the job. (A point to watch is that storing too many cylinders in the same place may raise total radiation to an unacceptable level.)

An American firm wanted to compare the efficiency of a number of **detergents**. They did this by mixing radio-isotopes with the dirt used to soil the test garments. Garments which gave off the least radiation had been washed by the best detergent.

Using the same technique in reverse, another American firm added radioactive material to **shoe polishes**. The more radiation given off by shoes after wear, the better the polish !

Eliminating Static

In many processes static electricity is a serious problem. It increases fire hazards and makes materials misbehave. Radio-isotopes provide a cheap and simple way of getting rid of it.

Static is generally caused by friction between two non-conductive materials—for example, continuous lengths of paper or cloth passing over rubber rollers. As a result the surrounding air receives either a positive or a negative electrical charge.

If a radioactive material is encased in a metal rod and placed very near the machinery, the air is ionized—that is, it becomes a good conductor of electricity and allows the static charge to pass to earth.

Such rods operate without attention for several years. Usually they

are so arranged that there is no chance of the operator's hands being irradiated for more than a few minutes every week. If sensible precautions are taken they are as safe as a neon lamp.

What They Cost

Radio-isotopes are cheaper than many people imagine. And their cost is more likely to go down than up.

Basically the price depends on two things—the material which has to be made radioactive and the length of the 'cooking' process. These, in turn, are determined by the purpose for which isotopes are needed.

A consignment may cost as little as £3 or as much as £2,000. Radioactive materials for industrial use are generally at the lower end of the scale. **Example 1:** For some jobs a month's supply of short-lived tracer isotopes can be bought for less than

£4. Example 2: Cobalt 60 isotopes for radiography cost about £40 a curie—considerably less than the gramme of radium which is needed to provide the same activity. Higher prices are usually offset by the fact that the material concerned has an effective life of many years.

Inexpensive now, radio-isotopes may be cheap eventually. This is because they are by-products of nuclear power generation. As more atomic power stations are built, so there will be more opportunities to produce them in large quantities.

Dr. Willard F. Libby, the U.S. Atomic Energy Commissioner, said recently that many radioactive materials could be made for one-hundredth or even one-thousandth of their present prices—assuming a big expansion in the market. However, British atomic scientists regard this forecast with some scepticism. Certainly it does not take into account handling charges.

Know-How

The curtain of secrecy has been pulled back. Today Harwell's Iso-



What They Save

► During 1956 the U.K. Atomic Energy Authority produced and sold 22,000 consignments of radio-isotopes. Their total value was over £500,000.

► More than one-third of these consignments were exported. At home and overseas, medical users took the lion's share. Yet it is estimated that during 1956 British-made radio-isotopes saved world industry between £80 million and £100 million.

► The U.S. Atomic Energy Commissioner, Dr. Willard F. Libby, reports that radio-isotopes are now saving American industry about £180 million a year. By 1962, he forecasts, the annual saving will have risen to ten times this figure.

topo Division is making great efforts to encourage industrial applications, and know-how is freely available.

This is what the Division now offers the businessman who wants to find out whether radio-isotopes can help him:

A Free Advisory Service. Enquiries about uses, handling problems, etc., are dealt with by phone or post. Sometimes consultations are held (by appointment) at Harwell.

An Experimental Service. Experiments are carried out either at Harwell or on the client's own premises. Often they are investigations arising from the advisory service—thus giving the client a chance to establish the feasibility of a new method before he goes to the expense of installing equipment. The service is non-profit-making. Charges are based on working time, the basic rate varying from £20 per man-day for senior personnel to £8 per man-day for scientific workers. Investigations are confidential as far as the client's problems are concerned. But Harwell reserves the right to pass information of general value to other firms after a reasonable time has elapsed.

The Isotope School. This was opened in 1951. Since then about 1,000 people have passed through it. The standard course (cost £40, excluding accommodation) lasts four weeks.

The demand for information is growing rapidly and the school is booked up for three years ahead. Soon, however, the position may be eased by the introduction of similar facilities at other centres. Liverpool College of Technology, for example, is now launching a series of shorter and more intensive courses, primarily for graduate students from local firms.

Information and advice are also available from manufacturers of nucleonic equipment and from the few firms which provide mobile isotope services.

Handling

Newspaper pictures of mechanical fingers uncorking lead containers have given some people an exaggerated idea of the problems of handling industrial isotopes. Generally speaking, the main requirement is commonsense.



Know-how is now freely available. Men from industry can acquire it on a four-week course at Harwell's Isotope School

generated idea of the problems of handling industrial isotopes. Generally speaking, the main requirement is commonsense.

In most industrial uses the radioactive materials are such that it is virtually impossible for employees to eat or inhale harmful quantities. Thus precautions are concerned mainly with the irradiation dangers to the people who actually handle them.

But radio-isotopes are generally less dangerous than natural phosphorus and other chemicals which (with due safeguards) are used daily by some industrial firms. In any case the hazards and the methods of preventing them are defined very clearly before the material is sold.

Memo for Top Management: Psychologically, it is important that the position should be explained to all employees when radioactive techniques are introduced. Otherwise vague associations with atom bombs

may give rise to unnecessary fears. This has already happened from time to time in Britain and elsewhere.

The disposal of radioactive waste seldom presents serious difficulties. Where low-activity isotopes are used for research and process control, contaminated air can usually be discharged into the atmosphere without filtering; liquid waste can go into the ordinary sewerage system; solid waste can be burned in an ordinary incinerator or put in dustbins. (In all cases, the local authority, etc., must be notified.)

An advisory service on the safe handling of radioactive materials is now provided by the Radiological Protection Service, Downs Hospital, Sutton, Surrey.

A few weeks ago, the Ministry of Labour published the preliminary draft of new regulations designed to protect factory workers and others from atomic radiations.

END

The Macdonald Brothers:
Frank (left) and William



Their Policy Was Specialize . . . Standardize . . .

... and this family firm's profits

PENGUIN chocolate biscuits are a household word in Britain.

Seven million of them are sold every week. Not even at the slack period in the summer can the makers accumulate a week's stock.

This spells success for the firm in question—William Macdonald and Sons (Biscuits) Ltd. But ten years ago they were a small concern. Their average annual profit was little more than £40,000. They had 35,000 sq. ft. of factory space and under 300 employees. They only sold their goods in Scotland and parts of Lancashire.

Today employees number 1,700. The factory has been expanded to nearly 100,000 sq. ft. Annual profit is up (before tax) to over £400,000. Products are nationally advertised, nationally sold. *Penguin* biscuits control more than 18 per cent of the chocolate biscuit market, according to an independent research investigation. More recent products are selling well, and are gaining a still larger share of the overall market for the firm.

Even by present-day standards this story represents a marketing triumph. Luck played little part in it. The tactics that were used are an object

lesson in strategy and clear thinking. Here is an analysis of them:

The Firm

William Macdonald started a food commission agency in 1921. Six years later he set up his own workroom and began coating imported wafers with chocolate. Selling at 1s. a lb. he soon found a market in Scotland.

He took his two sons William and Frank into partnership in 1928. Growing demand led them to lease a larger factory and produce a wide range of other biscuits. Soon there were 200 employees.

In 1931 the firm hired a second factory at Slough. But Home Counties competition was tough. Macdonalds found themselves undercut by rivals who had installed band-ovens (which

bake goods on a moving conveyor). A retreat was sounded, Slough given up, and manufacture concentrated again at Glasgow.

In 1939 trade was completely disrupted. The firm's premises were requisitioned. They moved to 35,000 sq. ft. at Glasgow's Hillington industrial estate. There, until the end of the war, production was more or less under Government control.

After the war, the partnership became a private company. In 1954 it went public, with an issued share capital of £250,000. Every year except 1947 its profits have increased. Last year they reached £438,631.

The Plan

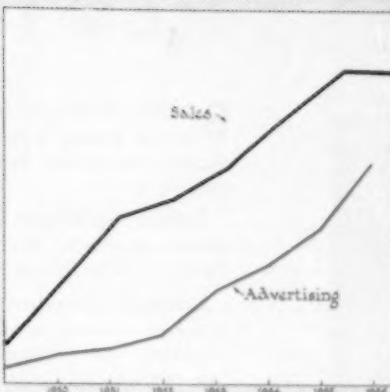
When the company emerged from the war, William Macdonald senior had died. His elder son William was

Macdonald's story shows how a modest concern can break into the national market—and prosper. But it needed a rare blend of logic and intuition to succeed



BUSINESS

Logarithmic chart shows sales—ads relationship. To maintain 1955-56 plateau needed giant rise in advertising expenditure. Says chairman Macdonald: "We advertise too much." But there is no alternative.



Press Advertising

(Figures exclude cinema, television and poster expenditure).

YEAR	£
1946	3,576
1948	7,076
1949	17,323
1950	35,554
1951	39,984
1952	43,104
1953	59,005
1954	99,884
1955	151,499
1956	199,217

Simplify

soared 1,000 per cent in ten years

chairman and managing director, with brother Frank as assistant managing director.

During the latter war years, these two had pondered the future in some detail. They were ambitious and determined. Their objective: the national market. Their assets: an unusual mixture of logic and intuition.

They rejected traditional solutions. Instead they sought new ideas from other industries. They looked ahead. Today they say it was quite obvious and simple. But they found an answer which others couldn't see.

The result of their thinking was this six-point plan:

► **SPECIALIZE.** It's no good fighting large combines on *their* terms. Traditionally, biscuit houses market over 100 lines. But that means spreading a small firm's resources thinly over a wide area. Wrong, said the Macdonalds. Pick a specialized field (sweet biscuits) and stick to it.

► **TEN LINE RANGE.** Within the specialized field, produce no more than ten products at any one time. Each must be a speciality product—

exclusive if possible, and identified by a brand name.

► **NATIONAL DISTRIBUTION.** To make a limited range profitable, the whole country must be covered by sales. The ultimate aim must be saturation. This argues advertising investment on a large scale.

► **MECHANIZE.** Mass market postulates mass production. The latest methods must be employed to prevent undercutting by the opposition

By STEPHEN ROSE

through cheaper production. However recent the machine, if a better one exists, get it.

► **ONE QUALITY.** Don't try to cater for both ends of the trade. Select one quality only—the quality of a good, marketable product—"something worth eating."

► **ONE PACK.** Traditionally biscuits come in all sorts of different packs. But this complicates production, invoicing, warehousing. Market only one basic pack per product.

► **To summarize:** the plan was based on the three "S's" of modern industrial theory: Specialize—Standardize—Simplify. Only instead of paying mere lip service to this precept, the company carried it out, almost to the letter.

The Products

► First catch your hare. If you are going to bank a firm's entire future on ten products, those ten have got to be winners. Macdonalds started by finding two basic items—a chocolate sandwich biscuit and a marshmallow teacake—with which to implement the plan. Later they added two more.

Product 1 was the *Penguin*. Covered in high-grade milk chocolate, it first appeared in sweet-starved Britain in 1947. It was the only product of its kind on the market then. From 1950, when materials eased, to 1954 sales rose 500 per cent. Moreover, in spite of the ten years' run they have had, *Penguins* are maintaining their position, and there is every reason to believe that sales can be raised still further.

Product 2 was *MunchMallow*, a teacake filled with marshmallow, and

also covered in milk chocolate. Introduced in 1950, it was hit the following year by raw materials shortages under the Butler 'axe,' but was gradually introduced into all seven major marketing areas. Successful by most other standards, it has not achieved anything like the popularity of *Penguins*.

Product 3. By 1954 the shortage of supplies and machinery had eased sufficiently for the third main Macdonalds line to be launched—*Mint Yo Yo*. This has proved a real winner and may rival *Penguins* in the future. Product interest is kept alive by constant introduction of additional new flavours.

Product 4. Except for two years, 1951-2, a shortbread biscuit called *GlenGarry* has been marketed by the firm. Only in the last few months, however, has national promotion been started for it. It is the only non-chocolate line by Macdonalds. It remains to be seen whether all the outlets for chocolate lines will also take on a straightforward biscuit.

Marketing Policy

Sales success has proved the original planning to have been right. The main factor, the company now realize, was the decision to coat all chocolate lines with milk chocolate.

The idea was not originally based on any market research, but on personal conviction by the Macdonald brothers. They had seen the spectacular pre-war rise of Cadbury's milk chocolate sales, and concluded that milk chocolate was what the public wanted. They were right.

Another idea that paid off was the decision to concentrate entirely on count lines (biscuits sold by number as against weight). Consequently, *Penguins* were individually foil-wrapped from the start. This was achieved in spite of materials restrictions and the impossibility of getting foil-wrapping machinery. Initial production had to be foiled by hand. But the decision, once taken, was adhered to.

It was typical of the Macdonald approach. In 1947 and for some

How they won

BY 1950 Macdonalds had practically no ground space left to extend factory buildings. Yet every year since 1950 production has almost doubled—a huge achievement. How did they do it?

Offices have been compressed. Clerical activities have been streamlined. Executives share rooms with their secretaries. The boardroom is tiny.

Machines never stop from Monday to Friday. Recorders check on minutes, even seconds lost. 24-hour shifts are worked including a married women's shift from 5-10 p.m. Shift change-over is a scientific drill, ensuring continuous production.

Relief team prevents emergencies. It consists of top-grade workers who can handle any job in the plant. They man key points at tea breaks, replace absentees.

Pictures show some of the other methods used:



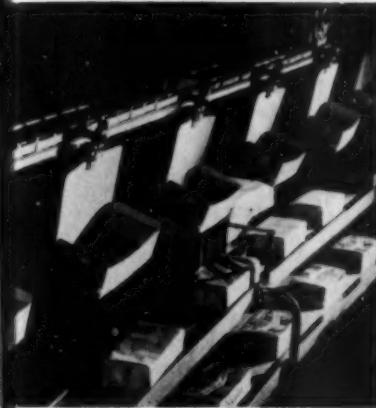
years afterwards, the firm could have sold everything they produced, wrapped or unwrapped. But they have never yet taken the short-term view. They never wait until market conditions force them to make a move.

Another example: recently the firm decided that the future lies very largely with self-service stores. The present market they offer is relatively small. It is not yet necessary to design packs for self-service appeal—but they have done just that.

Where before a carton contained three dozen *Penguins*, there are now only three to a small package. The biscuit itself is foiled, the three are boxed together in a small, gaily printed carton, and the whole is then wrapped in cellophane paper. The new process is obviously more expensive. But Macdonalds believe that the expense now will mean security in the market of the future.

Packaging has always been the firm's strong point. As soon as

the battle for production



MATERIALS OVER-HEAD—Conveyors are used wherever possible to speed flow. Top one here brings pre-formed cartons to packers by overhead rail, saves space.

DIFFERENTIAL SPEEDS
—Conveyor collects biscuits 12 abreast from slow-moving production band, channels them four to a row over faster bands to high-speed packing point. This compresses the space needed, clears gangway for other work.



ROOF SPACE USED—Conveyor zig-zags up into the roof apex (dotted line) utilizing wasted space for cooling freshly-baked biscuits. Other apexes have been built in to create storage space, toilets and a control room.



paper was decontrolled (around 1950) they scrapped the biscuit industry's traditional, cumbersome and expensive returnable tins. Instead, carton packaging was standardized. In the short-term view, this involved new machinery, high packing bills. But the long-term advantages quickly showed through: customers reacted favourably, orders increased, and new outlets were opened where before the tin problem had discouraged trade (canteens, kiosks, chocolate counters, tobacconists).

The sales force has grown in ten years from about fifteen men to just under 100. But even that number is quite inadequate to achieve saturation of all the outlets that Macdonalds' saturation policy envisages.

The firm's answer has been another break with tradition: **they sell through the wholesale trade**. Wholesalers tend to fight shy of ordinary biscuits for a number of reasons, one of which is again the returnable tin problem. But Macdonalds persuaded them to handle their products at an early

stage. This made quick expansion possible long before a large sales force could be established. Now over 50 per cent of the business is done with wholesalers.

Advertising was a major point in the plan. Macdonalds have not skimped it. Their appropriation today is probably higher than that of any other biscuit manufacturer. Exact figures are not being released just yet, but some idea of the growth of their account can be gained from the

How the Plan Paid Off

Graph shows remarkable climb of profits before tax. They reflect almost 50 per cent earnings on capital employed—an achievement in itself.

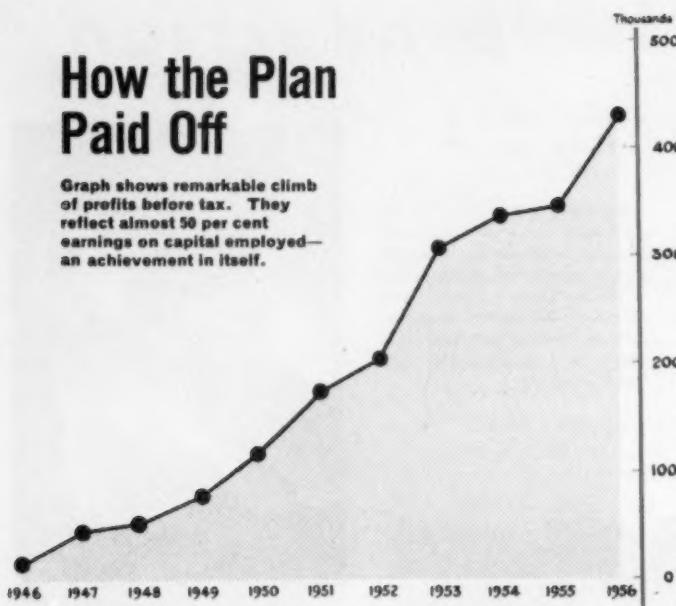


table showing their press advertising budget over the years (see page 79).

When expenditure on posters, television and the cinema are added to the press appropriation, advertising outlay last year must have been around £400,000. Yet in 1946 the total sum was under £4,000. The company will not release turnover figures, so that it is difficult to relate advertising to sales. But they state that the percentage is under 5 per cent.

Policy from the start has been to **advertise the product, not the house**. This again defies previous biscuit tradition. Only recently has the name Macdonalds been displayed on advertisements at all. The theory is that each product must be merchandized on its own merits. What you lose in 'house' prestige you gain in product identification.

Market research has been widely used. About three investigations

per year have been initiated since 1953. Results: often no more than a statistical confirmation of what the Macdonald brothers, from their flair for the business, already guessed or knew. But advertising agents Colman, Prentis and Varley say they have been helped considerably by this research.

One example: an investigation showed that 52 per cent of *Penguin* eaters are men. Consequently the majority of current advertisements show a man being fed with a biscuit. On the other hand, *MunchMallow* research showed that children are the most numerous consumers. So *MunchMallow* ads aim at child appeal.

Dealer relations are well looked after with sales aids for point-of-sale promotion. Most successful has been a wire display and self-service stand, which shows all Macdonalds prod-

"We never wait until we are forced into making a move" say Macdonalds. Time and again it is they who have made the running—and reaped the rewards

ucts attractively but takes up little counter space. Over 100,000 of these have been distributed free of charge to retailers.

Give-away gimmicks have included children's balloons, cut-out books, Indian head-dresses and mobiles.

Public relations have also been used for some years. A children's painting competition was organized with good results, and more recently a monthly award for bravery by children has been instituted.

The Future

A year ago the firm announced that they were going to consolidate, rather than carry on their rapid rate of expansion. To some extent this move was forced on them through lack of extra production space. But they have since leased another 30,000 sq. ft. nearby, and are having an additional 90,000 sq. ft. built for them almost a mile away.

A firm like Macdonalds cannot stand still. To maintain its position it has to go in for large-scale saturation advertising. To finance that, it has no choice but to expand operations.

New products are constantly being tried out, new markets being explored. Already exports of biscuits are going to European countries and to the dollar area. They are sampling reactions and local tastes.

No decision about the future has yet been announced. But when the new factory is in production (in about 18 months' time) it seems safe to predict that this remarkable firm will once again bound ahead with the vigour and imagination that have taken them to the top in ten eventful years.

END



Brokers & Bankers or - Owners of Tankers

Whatever your business may be—

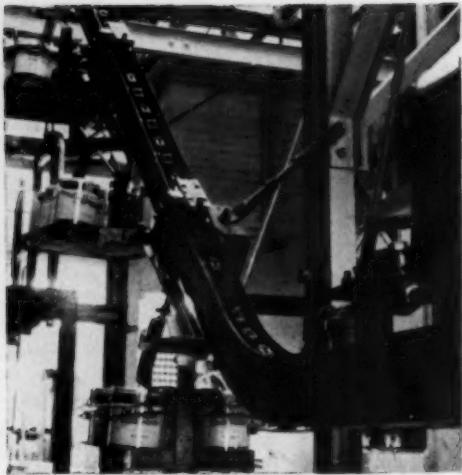
National ACCOUNTING SYSTEMS



*—will most certainly
cut your
office costs*

All-purpose ACCOUNTING MACHINES • Small-office BOOKKEEPING MACHINES • Electronic DATA PROCESSING SYSTEMS

Adding & Accounting Machine Division of The National Cash Register Company Ltd., 206-216 Marylebone Road, London, N.W.1. Telephone: PADDington 7070



Paint is moved by 5-gallon trays suspended from an overhead chain conveyor. Each tray is 'keyed' to be shunted off automatically.

I.C.I.'s new paint storage building at Slough uses multi-storey racking and an elaborate system of chain conveyors to cut handling costs, step up order turnaround. Its design solved three common problems

CONVEYORIZED WAREHOUSE

Speeds Orders — Saves Space

Problem 1: How to make the most of limited space. One million gallons of paint had to be stored on a site only 400ft. by 330ft.

Solution: Build upwards. But the great weight of this quantity of paint would make normal building methods uneconomical. So at Slough, instead of each floor supporting its own shelves and racks, it is the racking which is made to support each floor.

Method: A special type of high-racking, supported by thousands of vertical members, is built to a height of 40ft. Load-spreading bases to each member are all the reinforcing that is needed.

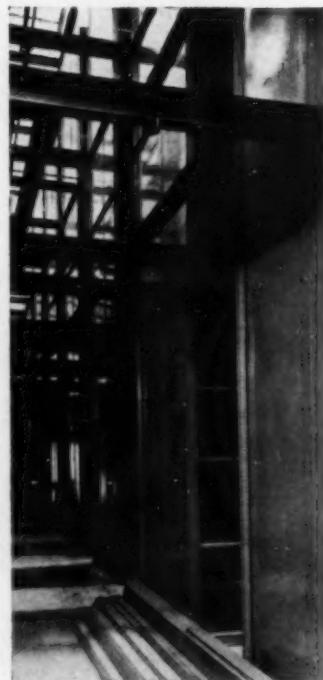
Gangways are slung between racks to form each of the three above-ground floors. The building's outer walls are purely a shell, bearing no stress apart from their own weight.

Problem 2: How to keep the shelves full. Manual handling is undesirable, and multi-storey construction makes the use of fork-lift trucks and pallets unwieldy. Also trucks require wide gangways, wasting valuable space.

Solution: Overhead chain conveyor. This carries loads of paint into the warehouse—direct to each floor—on trays suspended from trolley carriages. Chain travels at 40-45 ft. per minute.

Continued on page 87

Multi-storey racks go up to 40ft. in height, supporting their own weight. Gangways are slung between racks to form above-ground floors



PERSONNEL LOCATION BY MEANS OF THE CLOCK



Illumination of the hour figures on International Secondary Electric Clocks, flashing singly or in combination, indicates members of the staff required. The prominence and importance of the clock ensures attention; the silent signal avoids disturbance to workers, customers and clients.

These advantages are in addition to the benefits derived from control of secondary clocks on the

INTERNATIONAL MASTER CLOCK SUPERELECTRIC TIME SYSTEM

Accurate and uniform time of Clocks, Time Recorders and Signals.

All mains operation, AC and DC, without the use of batteries.

Parallel wiring, that allows the addition or removal of clocks without affecting other clocks on the system.

Continued accurate time irrespective of any fluctuations in electricity supply.

Two seconds duration of impulses, providing ample time for operation of moving parts.

Automatic Supervision—the exclusive IBM feature—verifying the receipt of sixty impulses by each time unit every hour.



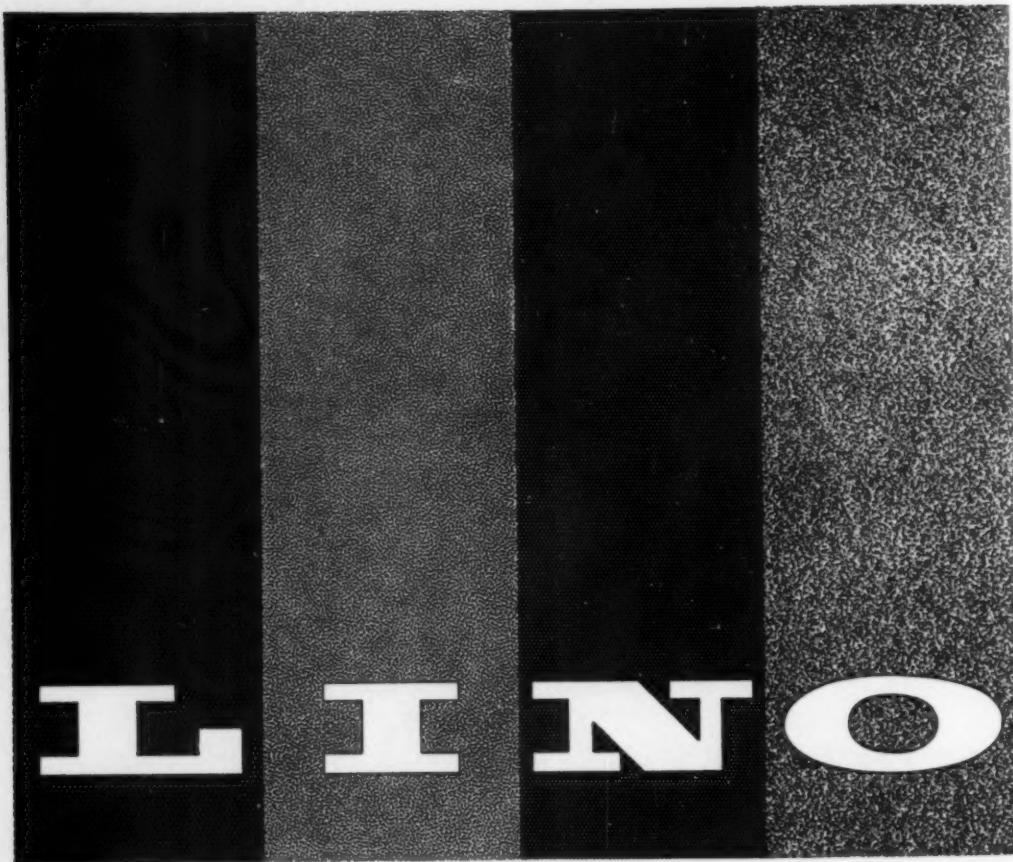
INTERNATIONAL

Details of this Personnel Location System included in the range of International Business Machines, sent free on request. (Quote reference J.617/1.)

IBM UNITED KINGDOM LTD., International Time Recording Division
8 Berkeley Square, London, W.1 Telephone: MAYfair 2004

Attendance and Job Time Recorders • Time Stamps • Secondary Clocks • Automatic Signal and Programme Control • Personnel Location • Clock Chimes without Bells • Watchmen's Clocks

Showrooms & Offices: Birmingham, Manchester, Leeds, Glasgow, and Newcastle-upon-Tyne. Factories: London and Greenock



Service Catesbys have laid lino for sixty years. Service built upon the fruits of this experience—complete understanding and knowledge of the craft—is worth having. Only Catesbys can give it.

Staff Well laid lino gives longer, better service than lino laid indifferently. Catesbys send an expert and their own fully trained fitters to every contract. They ensure perfect lino laying.

Advice Catesbys advice is impartial. They will recommend a certain type of lino only when lino is known to be the ideal floor covering. Catesbys will suggest the most suitable grade.

Stock It is always easier and quicker to choose and specify a design, colour and grade from lino in stock. At Catesbys you see lino in the piece—and you can choose from the biggest stock in Europe.



Contracts (Linoleum Division)

TOTTENHAM COURT ROAD, LONDON, W.1. MUSEUM 7777

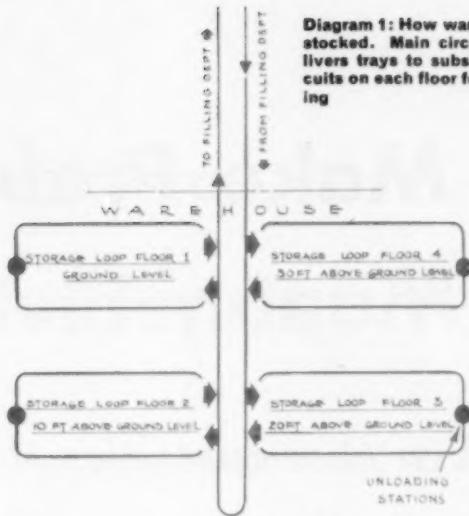


Diagram 1: How warehouse is stocked. Main circulator delivers trays to subsidiary circuits on each floor for unloading

Continued from page 84

System starts in another building—the filling department. As tins come off the filling line they are put straight on to the conveyor, each tray taking up to five gallons.

A control key is set on each tray which allows the latter to be shunted automatically to its correct destination by pneumatically-operated junction points.

In the warehouse the conveyor goes straight to the top of the building, winds its way down, so that loads can be shunted off at the required floor levels, and emerges to return to the filling department.

Subsidiary loops connect with it at each floor. As **diagram 1** shows, these receive incoming trays, take them round to an unloading station. There the tins are manhandled on to the shelves. Emptied trays are put back into circulation, rejoin the main system (again automatically) and so return to the filling department.

Problem 3: How to speed order turnaround. Orders may be large or small. They may require a wide range of paints in different colours and quantities. They must be processed and dispatched with minimum delay.

SEPTEMBER, 1957

Solution: An entirely separate conveyor system—of the same type as is used for incoming stock—marshals the various parts of an order from all over the building. This is how it works:

- Warehouse is divided into stock zones. Each has an assembler, whose job is to make up those parts of orders which concern the stock in his area.

- Assembler receives order instructions via pneumatic tube from a control desk on the ground floor. Using a special hand trolley which incorporates a step ladder, he collects items required from the shelves.

- Items are trundled to the loading station for that zone, and put on an empty tray.

- Assembler chalks the order number on the tray, sets a guide key to route it, and sends it off to the marshalling area. Documentation is returned to the controller via pneumatic tube.

- Each zone has its own marshalling line (**diagram 2**). From all over the building, parts of a given order will arrive in the various lines. When all

Diagram 2: How orders are filled. Main circulator assembles items, subsidiary loops marshal them for package and dispatch

have arrived, the controller sends them off for packing and dispatch.

- To ensure a steady flow of work for the packing line, storage loops are used. This means that assembled orders circulate like 'stacked' aircraft waiting to land at an airport. Storage loops also give the system flexibility.

Results

I.C.I.'s new warehouse represents heavy capital investment. (Exact cost is a closely guarded secret, but probably far exceeds £250,000.) Nevertheless, results are impressive:

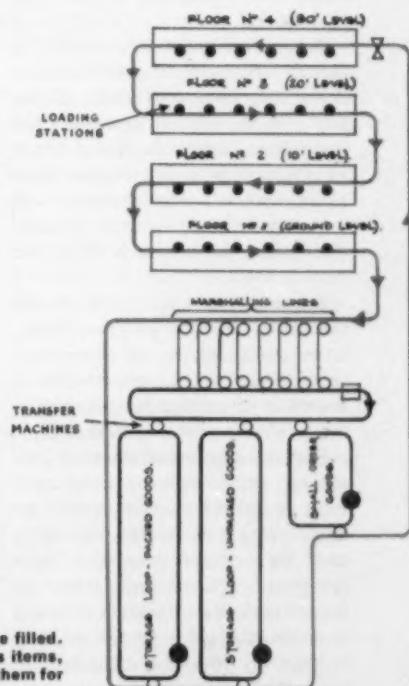
- Storage capacity of building is up from 7 gallons per sq. ft. to 30.

- Turnround on orders—vital for competitive selling—has been slashed from 24 hours to as little as 1½.

- Labour force of 120 (divided into four shifts) represents 15 per cent saving.

- In spite of heavy cost, capital cost per gallon stored is only 75 per cent of previous best.

END



How to Make Profit-Pay Management

The Rucker Plan

THIS profit-sharing scheme was evolved by Allen W. Rucker, originally a U.S. cost accountant, many years ago.

Rucker's principle is this: if the cost of raw materials, supplies, etc., directly utilized in a manufacturing process is deducted from the sales value of a factory's output, the balance that remains must represent the **value of that factory's internal productive effort**. Rucker calls this the 'Production Value.'

Production value represents the factory's economic contribution. It is the only income available for the payment of internal costs and for providing a cash profit. As a criterion of productivity it is independent of rising costs and wage increases, and means more to worker and management than profit figures from the balance sheet.

Research over many years' records shows that factory payrolls are directly proportionate to the production value created. They rise and fall in a simple percentage relationship as the production value rises or falls.

Rucker's conclusion: the wage percentage of a factory's production value is constant, determinable by reference to past records. It represents the workers' share of a firm's prosperity. If, through better or harder work, the percentage of wages to production value goes down (i.e., productivity rises) the difference between the normal and the actual per-

centage recorded represents **the exact cash value of that extra effort**.

Example:

Production value for month's operations	£1,000
Normal percentage of wages—50 per cent	500
Actual payroll for the month	350
Therefore better working by employees has earned	£150

Says Rucker: **this extra cash belongs to the workers.** It is not a slice off the management's profits (they are separately calculated). Management can well afford to pay out this sum in full, because the other part of the sheet will show a corresponding management gain.

There, in a nutshell and considerably simplified, is the attraction of this scheme. It never pays a penny until the effort it rewards has already resulted in higher productivity and therefore extra profits.

Management's share of the production value covers all other costs of running the business—salaries, operating expenses, tax, dividends, reserve funds and profits. If management wanted to pay itself an incentive bonus it could do so on the same principles exactly as apply to

the workpeople, only the calculation involved would be cumbersome.

Where's the catch? That is the first question that businessmen invariably ask about this scheme. Our case-history will show that once the plan is thoroughly understood and correctly worked with regard to the individual requirements of different manufacturing set-ups, nothing remains up the consultant's sleeve . . . except one thing:

Calculating the percentage ratio. The Rucker Plan is operated in this country by the F. R. Bentley Co., management consultants. They sell know-how which makes installation

By MARTIN BOOKHAM

of the plan a lot easier. But their basic stock-in-trade is the calculation of percentage shares of a firm's production value. Specialized accountants descend on the client firm and examine accounts as far back as possible, for a minimum of five normal operating years. They produce their 'share' figure like a rabbit out of the hat.

But the proof of every pudding is in the eating, and they look to future

Sharing Dividends

*a new approach in action
not just production*

Month	Bonus Gain or loss £	Bonus Paid (gain less 25%) £	Reserve Fund £
1956			
Jan	—1041	—	—1041
Feb	— 154	—	—1195
Mar	+ 437	328	—1086
Apr	— 63	—	—1149
May	—1858	—	—3007
Jun	+ 1397	1048	—2658
Jul	+ 356	267	—2569
Aug	—1342	—	—3911
Sep	+ 1304	978	—3585
Oct	+ 952	714	—3347
Nov	+ 1714	1286	—2919
Dec	— 507	—	—3426
1957			
Jan	+ 1712	1284	+ 428
Feb	+ 2334	1751	+ 1091
Mar	+ 4140	3105	+ 2046
Apr	+ 2300	1725	+ 2621
May	+ 2259	1694	+ 3168

How the System is Worked

- 1 Total deficits and 25 per cent of any gains are debited and credited to a reserve fund.
- 2 At year end, any reserve fund deficit is written off. Any credit is shared out as an additional bonus.
- 3 Bonus earned in any month is always paid out—regardless of reserve deficits—except for the 25 per cent transfer.

operating experience and management profit figures to prove them right. In the U.S., says Mr. Bentley, there has never been a failure yet.

Case-history

The Plan in Action

E. A. Chamberlain Ltd. are a family firm of fibre board manufacturers at Nailsworth, Gloucestershire, employing some 317 production workers. They called in consultant Bentley in 1955, and the Rucker Plan began to operate at their plant in August of that year. The entire project cost under £2,000.

The accompanying table shows what happened. After a slight initial bonus in 1955 (not shown) reaction set in. 1956 had a five months' run of bad figures, during which time only £328 was paid out. Meanwhile losses transferred to the reserve fund accumulated a debt of £3,007.

Then things began to pick up, with only August and December, traditionally bad months, losing bonus. *In the current year there has not been a single loss so far.* Bonus paid in the period January-May has averaged some £30 per man, or rather more than £1 a week.

"It took some time for the penny to drop," says chairman J. E. Chamberlain, describing this slow start. But currently, in his opinion, the plan is proving "an absolute winner."

Running the plan has proved simple. A Rucker Plan Committee was set up. It consists of five management and five worker representatives. No director may be a member. Membership rotates, so that as many people as possible will eventually have inside knowledge of how the scheme operates. The chairman is elected alternately from management and employees.

The committee meet once a month. They are presented with detailed figures showing the computation of employees' gains or losses. If in doubt about anything, they can have the figures explained in greater detail. The committee also deal with suggestions, and act as a miniature productivity council.

Meetings are held in company

Fordigraph



SPEEDFIX

SELF-ADHESIVE Tape

OFREX



Publicity agent

Vest-pocket Ofrex Stapler is year's smartest advertising idea. Individually packed in pocket wallet or plastic box. Grand goodwill builder keeps your name right on top and at customer's finger-tips.

Ref. 210

START STOPPING OFF WITH TAPE

New Speedfix technical tapes give fast, accurate masking-out in nickel, chrome and copper plating, and sulphuric anodising. Tapes are highly resistant, flexible, non-reacting and are dispensed (with slicer device) in widths cut to any measure from $\frac{1}{10}$ in. to 2 in. Details on request.

Quote Ref. 328

STICK TO THE POINT-OF-SALES LABELS

Smart and economical point-of-sale idea is I.T.'s colourful self-adhesive label, designed to your specifications. With standard or high-tack adhesive backing. Also on linen for heavy textiles. Glad to send details.

Quote Ref. 333



To: **OFREX GROUP CENTRAL INFORMATION SERVICE**
Ofrex House, Stephen Street, London, W.1

Please let me have more information about the products ticked as under:

B. 210

B. 240

B. 141

B. 338

B. 333

Executive's Name _____
(Staple this to your letter-head)

Or by telephone direct to:

INDUSTRIAL TAPES LTD. CLErkenwell 0174
OFREX LTD. MUSeum 3686
FORDIGRAPH LTD. MUSeum 3686

time, and are strictly limited to one hour. Unfinished business must be held over. They are an excellent communications medium, giving management an ideal opportunity to point productivity morals by emphasizing hard cash benefits.

Sharing the bonus is done like this: individual gross wage earnings are calculated for the monthly period in question, but discounting all overtime worked. This effectively discourages habitual overtime seekers.

The individual wage is then computed as a percentage of the total payroll, and a corresponding percentage of the group bonus is paid to the individual.

Extra accounting work involved in running the plan is inevitable. But office staff has not had to be increased because of that. Much of the work involves abstracting figures from existing statistics, plus a large amount of machine calculating. The extra work has, however, meant a considerable improvement in cost accounting and stock control. This has had benefits independently of those brought about by the plan.

Installing the plan took about six months. Apart from the analysis of facts and figures from previous years, undertaken by the consultant's staff, the scheme had to be sold on the shop floor. This was done by consultant Mr. Bentley in person. He took groups of about 25 workers at a time, and explained to them how the Rucker Plan would work, how it would affect them, stressing that existing incentives would be retained. He also dealt with the considerable volume of questions that had to be answered. Mr. Chamberlain emphasizes that this explaining is much better done by an outside man, as the whole scheme might otherwise smell of sharp practice to slightly baffled factory hands.

Reaction at first: "It's a wangle. They're trying to get us to work harder, and they'll use figures to prove we shouldn't get more cash." This firm's experience has been that only time can dispel that attitude. In their own case it took so long that

everyone concerned was beginning to get a little worried. But a bumper month, and the bumper bonus that went with it, demonstrated that all was square and above-board.

Management benefits have been considerable. Apart from a sharp improvement in morale and working atmosphere, gains have been recorded on the following points:

● **OVERTIME.** This used to be excessively heavy. Overtime has become the exception rather than the rule because the men know it hits the Rucker bonus.

● **LABOUR TURNOVER.** The whole work force has become more settled. With Rucker Plan Payments, but minus overtime, Chamberlain pay packets have gained a definite advantage over others in the area.

● **QUALITY.** Startling results have been recorded here. Output quality has improved 30 per cent under the plan.

● **EFFICIENCY.** Management can now ask for things that would have been rejected outright two years ago. Example: machines are now left running between shifts, promoting faster changeover. Productivity moves are no longer resisted.

● **HUMAN RELATIONS.** 'Them' and 'Us' gap has dwindled sharply. The plan has sponsored confidence in the management that was notably lacking before.

Reserve fund has been created as part of the plan. Every month in which there is a bonus gain, 25 per cent of the bonus is placed in the fund instead of being paid out. If there is a bad month, this is charged to the Reserve Fund (see table). In this way a buffer is created against undue fluctuations in working efficiency. At the end of the year, any credit in the reserve fund is split *pro rata* among employees. Any debit, however, is written off by the firm, so that each New Year starts with a clean sheet. The reserve fund is an additional inducement to employees not to quit.

Salaried and non-production staff are not normally included in this scheme. But to avoid unfairness, Chamberlains are paying them an equivalent bonus out of the management share, geared to what employees get.

Modifications. Only minor changes have had to be made so far. It is possible that if radically different production methods or products are introduced separate departments will have to be set up within the firm each with its own Rucker Plan and committee.

Verdict. The company say their balance sheet vindicates the consultant's claims. They have made considerable gains recently, and do not think that would have been possible without the Rucker Plan.

... and here's a small firm that worked things out for themselves

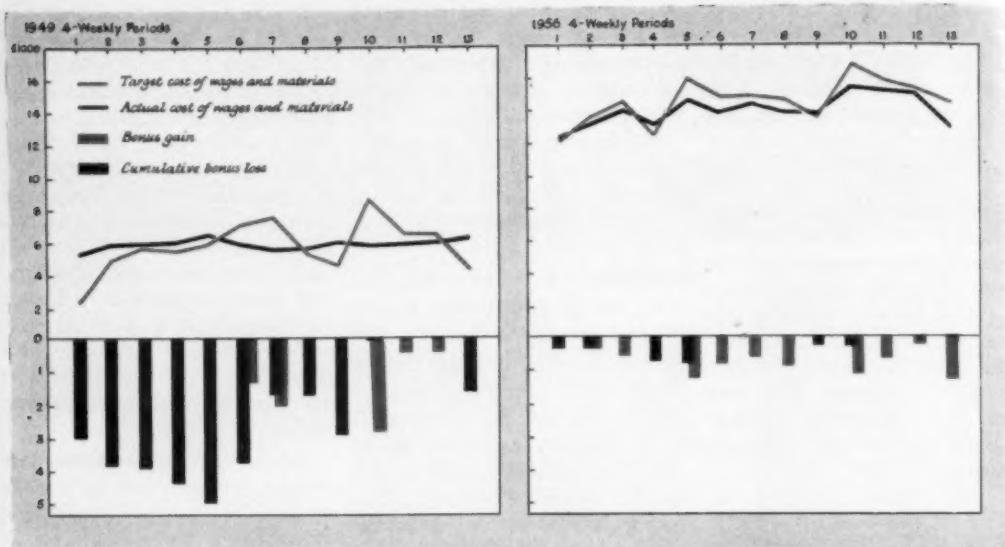
V. Siviter Smith and Co. Ltd. are a Birmingham firm of photo-engravers, primarily making blocks and plates for the printing industry.

In their engraving works, employing about 70 people, an incentive scheme has been run since 1949 based on increased productivity. After a slow start lasting about a year, it picked up rapidly and has since paid considerable management dividends.

The scheme is based on that which

used to be operated by the Nunn-Bush Shoe Co., U.S.A., and is largely similar to the Rucker Plan in approach. A fundamental difference is that it works on a direct ratio of wages plus materials to sales and does not first discount the cost of materials and supplies.

For the purposes of the scheme 'sales' are orders that have been invoiced. 'Wages' refer to production staff only, and include all bonus,



overtime, cost-of-living and other payments. Work-in-progress at the start has been written off over a four-year period and is now discounted.

The scheme was worked out and installed by the firm themselves. Seven representative and near-normal trading years were analysed. The percentage ratio of wages to sales was found to vary not more than plus or minus 3 per cent. A median figure (not disclosed) was chosen, and has since proved to be sound in practice.

In many respects the scheme functions like the one at Chamberlains.

Example: a typical months' calculation using imaginary figures.

Sales	£10,000
Normal wage percentage at 40 per cent	4,000
Actual wages paid	3,600
<i>Therefore bonus to be paid is</i>	£400

Alternatively, if the normal percentage figure is less than actual wages paid, a bonus loss is recorded and carried forward.

Monthly fluctuations due to varying number of working days in calendar months are minimized by dividing the bonus year into 13 four-week periods.

No reserve fund is kept. If the

HOW PLAN WORKED OUT—Siviter Smith bonus is earned when black line is below the red, but is not paid until cumulative deficits have been wiped out. Left-hand graph depicts first year of operation (figures disguised). On right is last year, showing improved trend

bonus calculation shows a surplus, it is paid in full. If there is a deficiency, it is chalked up, and no bonus is paid until the deficit has been wiped out. Further, the account is not levelled at the end of the year. Deficits are carried forward until paid off.

Says managing director Peter Siviter Smith: "Some employers have been inclined to lose their nerve when faced with deficiencies and have agreed with their men to pay out the bonuses when earned, but to disregard the deficiencies when they appear. That is unsatisfactory . . ."

He has practised what he preaches. In his own case, the scheme got off to a disastrous start. In the first few months the deficit became so large that it looked as if bonus would never be paid at all. But management held firm. They stuck courageously to the rules, and subsequent years have vindicated them.

Keeping interest in the scheme alive is regarded as vital. One idea is to issue bonus payments in separate envelopes, clearly marked 'Bonus for Increased Production.'

Progress charts on the works notice-

Continued on page 157



'Barometer' Shows Daily Progress

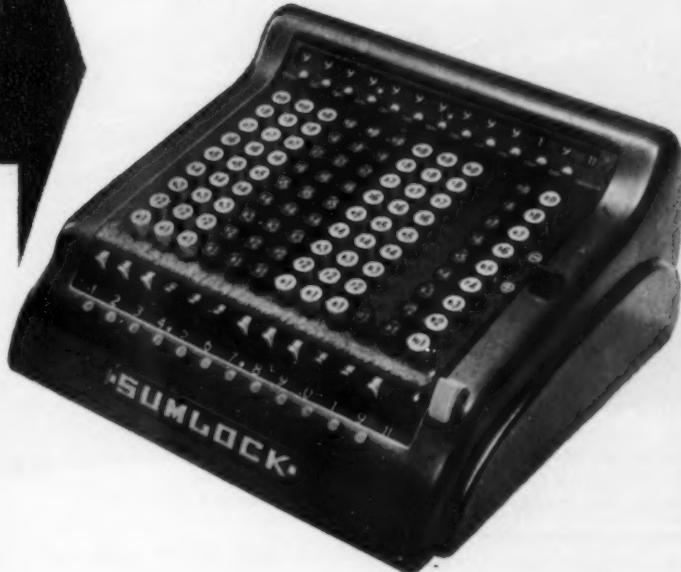
Here is one way Siviter Smith keep interest alive in their scheme. Works chart shows corrected costs/sales relationship every day. Any advance of sales column over costs represents a cash gain of that amount. The other way round records a loss. Costs are estimated weekly and corrected every five days

CALCULATING?
ADDING?

SUMLOCK

has the most complete
range of machines

BELL PUNCH
PRODUCT



SUMLOCK

Home Market: SUMLOCK LIMITED, 1, Albemarle Street,
London, W.1. Tel: HYDe Park 1331

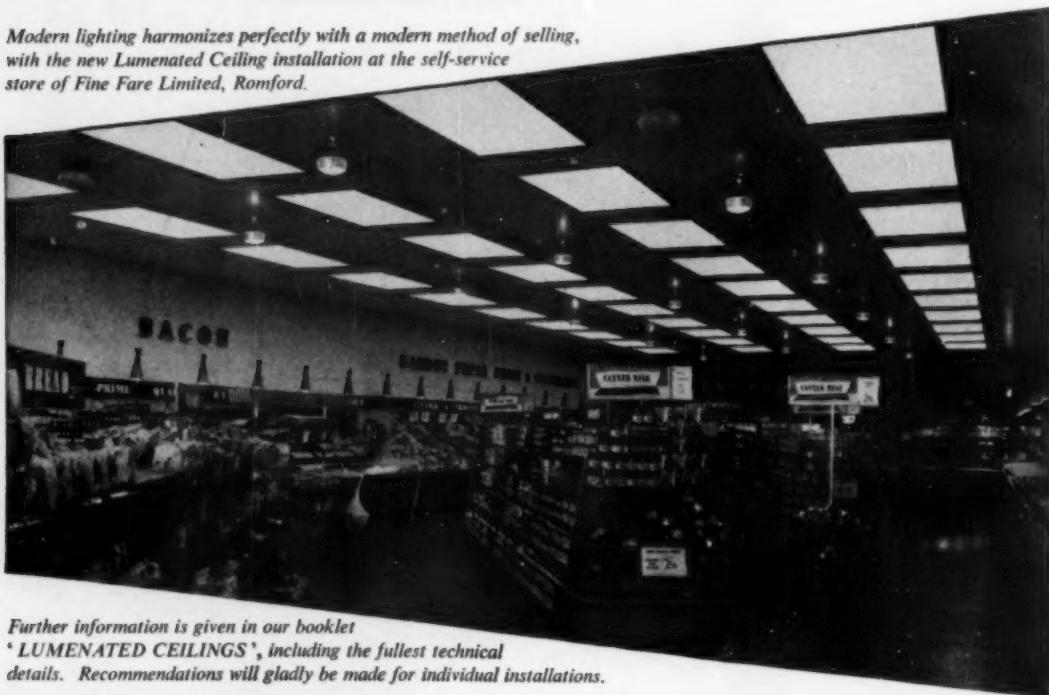
Export Market: BELL PUNCH EXPORT CO. LTD.,
39 St. James's Street, London, S.W.1. Cables: Belpunch, London
TWO COMPANIES OF THE BELL PUNCH GROUP

CEILINGS THAT SELL

WORKING efficiency, improved appearance and important economies in the whole design of an interior are provided by a Lumenated Ceiling. Its clean, translucent surface diffuses light of correct intensity completely free of shadows, glare and high-spots. It also provides an attractive, con-

temporary ceiling at a lower level for modernising old interiors. Since lamps, wires and fittings are automatically screened, they need not be specially boxed or recessed, and no finish other than inexpensive whitewashing is needed to the structural ceiling.

Modern lighting harmonizes perfectly with a modern method of selling, with the new Lumenated Ceiling installation at the self-service store of Fine Fare Limited, Romford.



Further information is given in our booklet 'LUMENATED CEILINGS', including the fullest technical details. Recommendations will gladly be made for individual installations.

GOOD LOOKS WITH ECONOMY

The Lumenated Ceiling has an attractive appearance whether the light is on or off. It is easy to clean and keep in good condition and its initial costs compare most favourably with other forms of lighting.

A BRILLIANT NEW IDEA IN ARCHITECTURAL LIGHTING

LUMENATED CEILINGS

LIMITED

PATENT NO 756099



ALLIANCE HOUSE, CAXTON ST., S.W.1. TEL: ABBEY 7113
10 Bothwell Street, Glasgow, C.2. Telephone: Central 6571/2

Registered Offices:
THERMOTANK LIMITED, 150 HELEN STREET, GLASGOW, S.W.1

TGA LTD

Getting Ready to Meet

FOR all practical purposes the enterprising British businessman may assume that the European Common Market is imminent. This is obviously the right line to take now that the lower houses of the French National Assembly and of the German Bundestag have ratified the Rome Treaty setting up the European Economic Community (E.E.C.). The upper houses of these two parliaments, as well as the parliaments of Italy and of the Benelux countries, are generally expected to vote for the E.E.C. treaty without causing any great delay, so that one must assume its complete ratification by, say, mid-September.

Soon the negotiations for the European Free Trade Area will start. British businessmen, of necessity still very much on the touchlines, are watching developments. Undoubtedly the pace will now speed up a great deal. Already it has been announced that there is to be a meeting of the Council of the Organization for European Economic Co-operation (O.E.E.C.) in Paris in the early autumn, at which the British proposals for an Industrial Free Trade Area are to be discussed.

Meanwhile, a Nordic Common Market looks like taking shape. This may consist of Denmark, Finland, Norway and Sweden—although it is not yet clear whether all four will wish to join the Free Trade Area as conceived in the British Government's White Paper. Denmark, if it cannot persuade the other three Scandinavian countries to press Britain to have agricultural products included in the Free Trade Area, may decide that it would be better off in the common market of the European Economic Community. Certainly

The Challenge in Europe

The Common Market is imminent. Far-sighted British firms are already making efforts to get one-up on competitors—here and on the Continent

the pressure on the British Government to modify its attitude to the inclusion of agricultural products is increasing from all sides on the Continent.

Whatever the final outcome of the talks and negotiations that will go on for the next 18 months or so, a fast-

duction on intra-European trade, as well as all the (usually exaggerated) advantages of Imperial preferences in the Commonwealth markets. Now there is a swelling chorus of voices proclaiming the opportunities for British enterprise likely to be provided by freer trade in Europe.

Directors and executives, officials of trade associations and chambers of commerce, trade unionists and even the owners of very small firms are taking steps to find out what the Common Market is—and how it differs from the industrial free trade area proposed by the United Kingdom government. Up and down the country, they are flocking to talks and lectures on these subjects. Just how keen the business community is to find out more about Britain's place in Europe was shown by the very large number of businessmen who attended the recent public meeting of nearly 3,000 people organized by

By G. R. LAMPTON

growing number of British firms are now taking a positive interest in what is happening on the Continent. Moreover, the general tone of comments by British industrialists and traders has changed a good deal. Only a few months ago most of the references to the possibility of freer trade were reflecting fear of what would happen if Britain did not in some way arrange matters so as to have the benefits of mutual tariff re-

the United Kingdom Council of the European Movement. At this Sir Winston Churchill, the Prime Minister and Sir Alfred Robens, as well as a leading French and a leading German politician, spoke in favour of Britain joining the Free Trade Area.

The more serious-minded (that is usually the more far-seeing) businessmen are reading up the quickly-growing mass of written information. A basic reading list appears at the end of this article. Items that have been starred may be regarded as essential reading by those who want to understand the bits and pieces of news and comment on European freer trade which are now being published almost daily in the newspapers.

Having been awakened to possible developments by an F.B.I. enquiry some months ago, many firms and associations have set up study committees. In some cases these com-

mittees found themselves unable to make progress in the absence of detailed information about the Common Market and the Free Trade Area. Certainly the British Government's White Paper did little to help them forward. It was not until details of the actual Rome Treaty became available that interest was really aroused. Knowledge of the Common Market Treaty provisions is important because, as far as tariff and quota abolition is concerned, it will be the model for the Free Trade Area convention.

Fact Finding

Most large firms have economic and business research departments that keep senior management advised of what is happening in Europe and elsewhere. In many cases, the freer trade developments have been taken so seriously that special committees

have been set up with the research department acting as secretariat. Usually, this procedure has resulted in the demand for highly specific information, which is sometimes collected and analysed by the research staff, and sometimes provided by outside firms specializing in this kind of work.

One or two firms have commissioned outside specialists to prepare material, which is circulated to executives and subsequently used as the basis for detailed discussion. A number of executive week-end study sessions have been organized by individual firms, the main object being not so much to make decisions about the future as to get senior staff to take a wider view than they usually do. The point is, of course, that the new trading set-up in Europe will so change the situation of many firms that *all* executives will be affected.

What questions should firms be asking at this stage of the new developments? The key examples given here apply to manufacturers, but similar questions are being asked by merchants, advertising agents, stock-brokers, insurance companies and brokers, banks, transport organizations and others:

Marketing

What effect will the new arrangements have on our markets in Europe, at home and elsewhere? Must we set up subsidiaries and branches, or should we tie up with other firms here and on the Continent?

Competition

What is the existing capacity for making our products on the Continent? What are likely to be the trends there? Will freer trade in Europe make for lower prices there and elsewhere, and is our competitors' capacity likely to be extended to meet the new demands?

Raw Materials

Will we, or our competitors, have to pay less for important raw materials? Are there going to be alternative sources of supply?

Investment

Should we modernize and expand our existing capacity now to be able

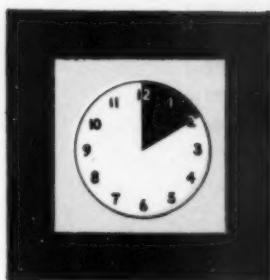
Continued on page 155

BUSINESS

automatically... more leisure



with B & A computing machines



TRY OUR 10 MINUTES TRIAL

Set aside ten minutes to try any one of these fine B & A computing machines and save yourself hours a day for years to come.



BLOCK & ANDERSON



VICTOR EXECUTIVE



Make no mistake—get a **VICTOR**

The VICTOR EXECUTIVE is the fastest, quietest adding/listing machine with a foolproof record of every entry. The short handle pull and the flexible keyboard respond to a feather touch, reducing fatigue. There are over 1,000,000 VICTOR adding/listing machines in use in every type of business and profession—a recommendation which needs no comment. Why not ask for a demonstration in your office today?

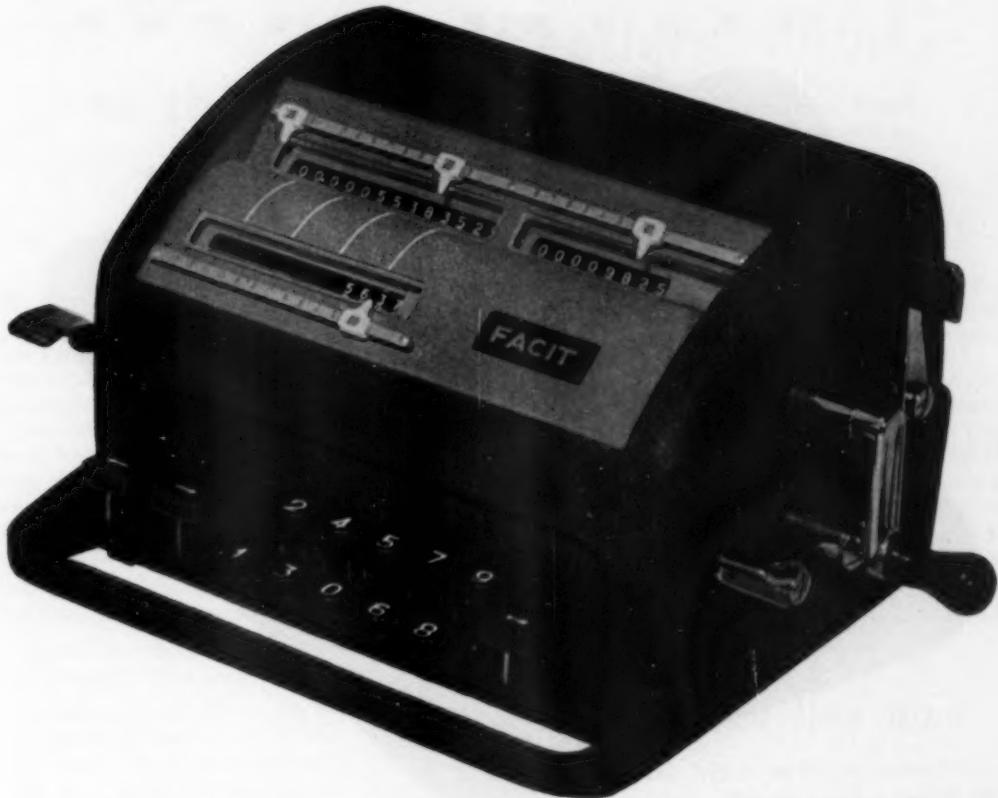


BLOCK & ANDERSON



SALES & SERVICE THROUGHOUT GREAT BRITAIN

FACIT NTK



10 MINUTES WITH 10 KEYS and ten times faster

There's nothing simpler, faster or more accurate than doing all your calculations on the FACIT. Simpler, because it employs the famous FACIT ten-key system, grouping all controls under the span of one hand; faster, because *all* operations are fully automatic; more accurate, because there is visual proof of *all* entries. Take ten minutes now and learn how a FACIT ten-key calculator (hand or electric model) can save you hours a day for years to come.



BLOCK & ANDERSON



SALES & SERVICE THROUGHOUT GREAT BRITAIN

SEPTEMBER, 1957

99

MARCHANT

FIGUREMASTER



touch the keys—read the answer

MARCHANT gives you simultaneous push-button multiplication. Touch the multiplier keys and the answer appears—at once. There are no other keys or controls to bother about...no waiting for the answer to grind out.

MARCHANT operates at a speed of 1,300 r.p.m.—there's nothing faster in the production of right answers to figure problems.



BLOCK & ANDERSON

LIMITED

58-60 KENSINGTON CHURCH STREET, LONDON, W.8. Tel: WESTERN 7250 (10 lines)

BRANCHES: BELFAST, BIRMINGHAM, BRISTOL, CARDIFF, DUBLIN, DUNDEE,
EDINBURGH, EXETER, GLASGOW, LEEDS, LEICESTER, LIVERPOOL, LUTON,
MANCHESTER, NEWCASTLE, NOTTINGHAM, PRESTON, READING,
SHEFFIELD, SOUTHAMPTON, STOKE-ON-TRENT, TUNBRIDGE WELLS.

SALES & SERVICE THROUGHOUT GREAT BRITAIN

The Way to the TOP

What Readers Think

Great interest has been aroused by the 'Business' Panel Discussion on Education for Management, reported in the July issue. Here are three of the many letters received.

Sir,

I was so stimulated by the report that I am answering your request for comments by letter. In an attempt to simplify and clarify my points I shall state them in the form of dogmatic headings which must be somewhat exaggerated. They can, however, be expanded without changing their underlying principles.

A manager must know his job fundamentally. (The job of his department, not of 'management'.)

He must be able to think and act constructively in new situations.

He can achieve the former only by specialized knowledge and intimate experience. He can achieve the latter only by a wide understanding of fundamental principles.

The training in fundamentals can take place first, but the accent must always be on first principles, which must not be obscured by refinements or complications. (This admits some arts graduates and excludes many science graduates.)

The specialized knowledge may, however, be acquired during the same period as the fundamental principles. (This could admit technical college part-time students.)

The man who decides early on his specialized career will have great advantages.

Experience can be gained quickly only if 'feedback' is quick. In many jobs 'feedback' is provided only by the opinions of a superior—responsibility for a small part of a large pro-

ject is an example. Such jobs do not provide good experience for managers.

An important exception is where a manager is 'apprenticed' to a superior who is demonstrably expert and personally responsible. But even then the results of the actions must be clearly visible quickly.

Jobs involving many small decisions with quick 'feedback' provide the best training. (They are also practicable because superiors can judge

by results before a dangerous situation occurs, and in the meantime can delegate complete responsibility.)

A good memory is an invaluable asset and should be cultivated from the earliest schooling. But constant mental exercise is necessary to enable the experience stored in the memory to be acted on quickly in order to reach a sound, clear decision. (Mental arithmetic involving quick approximate solutions to complicated problems, rough sketches and précis

... and this is what they want

A reply-paid card in the July issue listed seven ideas for developing executives. Readers were asked to tick those which they considered particularly suitable. On average, they ticked two each.

The results were:

- A reading course designed to give the executive an appreciation of each management function outside his own field 44%
- Regular group discussions with colleagues, using case-studies provided from outside 44%
- A course of guided reading interpolated by periods of a few days' discussion at a training centre 37%
- A long residential course (about three months) 30%
- A short residential course (two or three weeks) 29%
- Six months' paid leave to investigate a specific matter (as suggested in the discussion) 19%
- Six months' paid leave to teach management at a university or technical college 11%

writing from memory are all useful exercises.)

Courses of all descriptions, while interesting in themselves, are of relatively little value to managers, principally because they take away his responsibility for his own learning.

Research into a specific subject is an academic exercise which gives good experience in research, not in management.

The most important characteristic of a manager, or indeed of any man, is the strength and quality of that indefinable 'inner fire.'

S. M. SELKA
Director

*Reliance Gear Co. Ltd.
Huddersfield*

Sir,

I am just turned 40 and have a very active business which places heavy demands on my time and energy. But in spite of this I have recently completed the management diploma course at our local technical college, which took up two evenings a week.

I have to devote a considerable amount of my time to the interests of a young family, which leaves little time for more than cursory reading. However, I found that combining a certain amount of reading with the course of management and regular group discussions with other men of my own status gave me the best opportunity to meet my own needs for business management training.

In my position it would be quite impossible to be released from my work for a three-month residential course, but for junior staff a short residential course of two to three weeks is probably most beneficial.

Furthermore, a firm of our size could hardly give an executive six months' paid leave.

RICHARD M. PINKHAM
Joint Managing Director
*W. Pinkham and Son Ltd.
Witham, Essex*

Sir,

One question stares me in the face: Is the training meant to provide a way up for the man who is intrinsically good enough for the top man-

agement job and who will see to it that he has prepared himself for the opportunity when it comes, or is it a 'management tool' to be used on (for a change, not by) those managers who need a pull from above?

The analogy of the salmon ladder struck me at once—the active fish climbs it and gets away upriver, but most stay and swim around in the pool at the bottom, trusting that eventually the keeper with the net will come along and hoist them over the dam.

If company boards are anxious to encourage the ones with the lean and hungry look and discourage the well-fed, then the suggestions for training could be criticized thus:

A Reading Course. An excellent conception, but it must be well executed, too. Moreover, it must not start too far down—for example, the book on company accounts must not say a word about double-entry book-keeping but must give an understandable account of such esoterics as company tax liability and the raising of capital.

Regular Discussion with Colleagues. Surely the good executive will take the trouble to do this anyway. It doesn't matter whether it is done formally or not.

Six Months' Teaching. A wonderful opportunity to catch up on one's reading and get one's golf handicap down, but what a waste of time!

Six Months' Research. Nice holiday for those who like it, but would bore a keen manager stiff!

Residential Courses. Often the only way to teach a specific subject thoroughly (for instance, operational research to the methods engineer and computer programming to the company secretary), but not much use for teaching general management. The embryo general manager is already a success at his own job and can be relied on to use the means at his disposal to keep that way; his need is to learn the general pattern of management outside his own field. This he can only do gradually, and best of all, by:

Guided Reading and Discussion. The pattern should be that the ambitious manager will study, out of a

book, the whole of one management function not his own. Then he will attend a short discussion at a residential school. A change in current practice is needed here—the residential course should not be composed of a bunch of (say) company accountants who have studied production engineering and are now being lectured by one or two really expert production engineers, but should comprise equal numbers of engineers and accountants who have been reading up the other fellow's job.

J. G. WAUGH
Cannock, Staffs.

Postscripts

A large percentage of the readers who took part in the survey added suggestions of their own to those listed on the reply-paid card. Samples:

Visits to industrial undertakings on a national or international basis, sponsored at government level.

Assignment on a temporary basis to a job on the same or higher level but in a different field—e.g., sales manager to factory manager.

To spend six months every three years investigating other functions of his organization as a member of an O. & M. team.

A course to teach the individual to converse on technical matters in a non-technical manner.

Four weeks as a labourer to learn humility and human understanding.

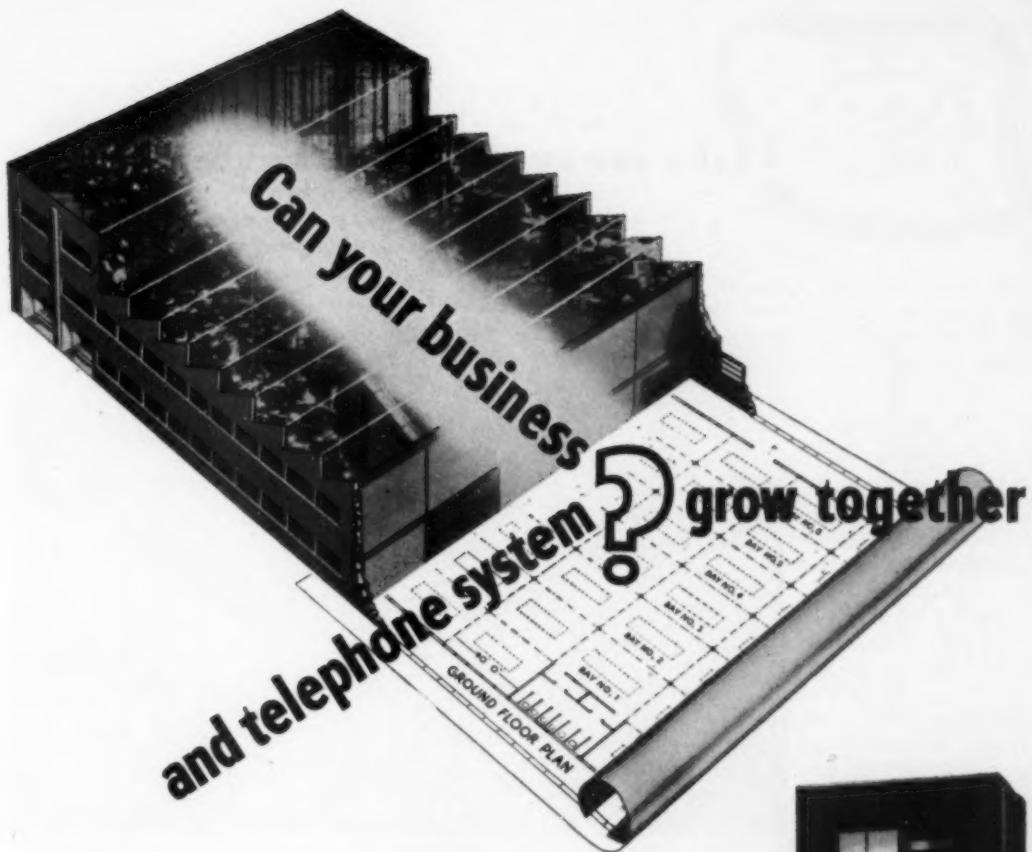
We find that sending an executive to study a competitive market overseas usually produces clear and lucid thinking.

Monthly reviews of progress with an immediate superior, with special reference to the younger man's (honest) self-analysis.

Training in speech-making with different types of audience. Training in report-writing.

Seconding to another firm (or firms) for several years to get a new 'slant' on things.

Monthly or fortnightly one-day discussions on problems of general interest to small businesses.



Speed in inter-departmental communication is the keynote of efficiency. The installation of a Reliance Private Automatic Telephone System soon establishes that atmosphere of orderly activity so essential to smooth business organization. The more your business grows the more telephones you will need. So make sure your telephone system is flexible. For preference select the Reliance PX.5100 P.A.X. It can be equipped initially for a few extensions and can be extended quickly—easily—when and where required. Complete installations supplied on rental with efficient maintenance service, saving capital outlay. We shall be pleased to send you full details.



THE RELIANCE TELEPHONE COMPANY LIMITED

(A Subsidiary of the General Electric Company Limited)

43-47 PARKER STREET, KINGSWAY, LONDON, W.C.2.

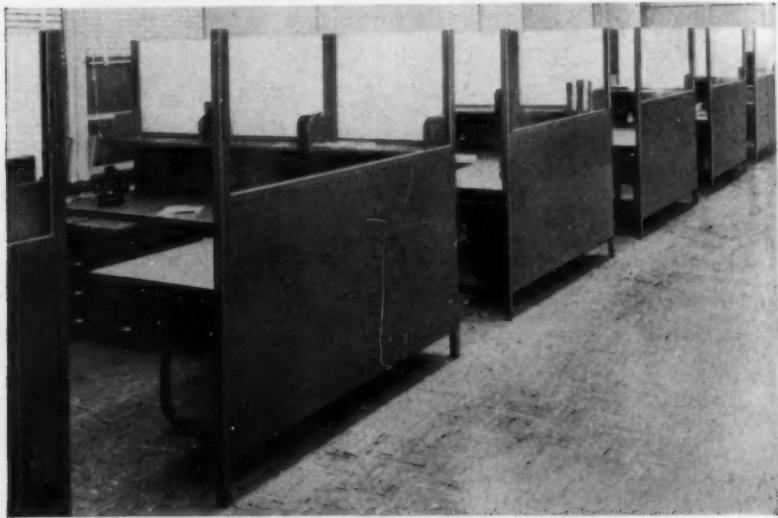
Telephone: CHancery 5341 (P.B.X.) Branches throughout the United Kingdom.

INTERNAL TELEPHONES · STAFF LOCATION · MUSIC FOR INDUSTRY

Art Metal
Buckingham Palace Road
LONDON S.W.1

This new development ..

is the logical solution to the problem of conserving costly floor space without sacrificing employee comfort or efficiency and represents a new advance in the efficient planning of offices . . .



Art Metal *El-Units*

are self-sufficient, flexible offices affording privacy, easy access, and increased working areas. The complete line of Desk Units and Work Tops are designed to fit the requirements of any job, and offer unlimited possibilities in layout . . . El-Units put more working space within arm's reach . . . Offices can be private, semi-private, or open, with or without glass-topped steel partitions.

El-Units make it easy to utilize to advantage all available floor space. . . . Offices can be re-arranged like office furniture to accommodate additional personnel or increased work. . . . Following the Art Metal tradition, El-Units contain all the features of fine metal office furniture, plus unusual freedom of arrangements to suit individual needs and specific space conditions.

There's room to spare—in the same space—with Art Metal El-Units! . . . Catalogue 604 tells you all about this latest innovation—send for your copy NOW!

Please forward Catalogue 604 to:

Name _____
Firm _____
Address _____

ART METAL CONSTRUCTION COMPANY
201, BUCKINGHAM PALACE RD, LONDON, S.W.1, SLOANE 5201

MANAGEMENT AT WORK

IDEAS AND ACTIONS OF PROGRESSIVE FIRMS

Handbook gives visitors firm's story in brief

A NEAT, spiral-bound booklet (4½in. by 7in.) is sent to everyone who arranges to visit Mirrlees, Bickerton and Day Ltd., Stockport. It must be doing a public relations job for the firm out of all proportion to its cost.

In addition to a message of welcome ("We at Mirrlees are always proud to receive visitors to the factory") a lot of useful information is put across. 'Where to stay' is a guide to local hotels. 'What to see' illustrates local attractions other than the factory. Company history and a brief description of the range of products are supplemented by descriptions of typical applications.

Perhaps the most useful feature is the 'Who to see' section, which gives a pictorial version of the organization chart. Passport photographs show what each executive looks like, and brief captions list specific functions and responsibilities.

Other items in the booklet are: Plan of head office showing location of various departments; access from internal termini and from abroad, with plane and rail timetables; and a selection of press cuttings about the firm.

Employees consulted on new designs

COPPERAD Ltd., Colnbrook, join the ranks of firms that have taken up brainstorming. They believe in getting opinions from employees at all levels when developing a new product.

Before the design committee starts work, meetings—generally about 30 or 40 strong—are held after hours in the canteen. Two tape recorders are used to take a verbatim record of

proceedings. Sessions are run on orthodox lines:

- 1—No criticism of suggestions is allowed, however stupid they may appear.
- 2—Any irrelevant comment may be made by participants. Ideas must be kept flowing at all costs.
- 3—No two people may speak at once.

The management are not sure whether they get many bright ideas this way. But at least everyone concerned feels better for having had their say.

This sales force never leaves the office

HOW to cut the cost of selling ? Give each of your representatives a desk, a telephone headset and an egg-timer, say Rosco Steel Corp., Illinois, U.S.A. Through making their travellers chairbound this company are faced with an 8,000 dollar phone bill every month, but savings on cars, fares and expenses make up for this many times over.

This is how the system works. Rosco's customers want facts and prices, not sales-talk. Up-to-the-minute reports on steel available is a greater sales weapon than a smooth tongue. So after a salesman has visited all his prospects once in person the rest is done by phone. Up to 50 customers a day can be contacted, the egg-timer keeping conversations short and to the point.

The salesmen all sit in one vast, air-conditioned room. A huge wall-chart dominates them. It contains latest information on steel stocks available. Once a salesman has made a sale by phone, he goes up to the chart himself and adjusts it accordingly.

Punched card records are kept in an adjoining room. They itemize

customers' habits and requirements. As many as 200 cards may be raised for one account. Personal details such as birthdays are included, so that the selling operation does not become too impersonal. This way, of course, salesmen have more information at their fingertips than if they were outside.

The technique may sound inhuman, but it has built up Rosco from humble origins to 8½ million dollars annual sales in just over ten years.

Compact records make selling easier

HERE is how the Dundee Linoleum Co. Ltd. enable only one clerk to keep comprehensive records for 15 salesmen and 5,000 customers, ensuring that representatives are always fed with the background information they need, while headquarters can check all points of sales performance at a glance.

A visible-edge record card is made out for each customer. Careful design ensures that the visible strip displays the key information that the sales manager needs, without it being necessary to turn up the card itself.

Coloured signals indicate month of last call by the traveller, month of last order, state of the account, etc. Simple symbols classify the type of firm into small, medium or large retailer, wholesaler, co-operative, department store or multiple store. Three extra squares are marked simply 'u', 'd' and 'n'; a green signal over one of these shows whether that customer's purchases last year were up, down or the same as the previous year. Another space shows if any credit restriction has been imposed, or whether the account has been 'black-listed'.

The main body of the cards, which are filed by sales area, is used for a record of sales transactions, with monthly and annual summaries of sales shown on the back. Each card also holds a secondary card. This is called the 'customer record card' and is used for keeping salesmen briefed. Every week, when the traveller sends in a memorandum



Summer Holidays

We cast off on Friday, 26th July and return to harbour (tide permitting) on Tuesday, 13th August.

A prolonged silence could mean that we have run aground again.

On the last occasion, our spirits were revived by John Barleycorn, aided by the faithful Beanstalk which normally takes care of the empties in the galley!

So tra-la for a holiday of fair winds and for you too, a holiday of sunshine.

BEANSTALK SHELVING LIMITED • CHICHESTER • SUSSEX

Latest in a series of annual holiday reminders sent out by Beanstalk Shelving Ltd. The firm find it saves customers the annoyance of ringing up and getting no reply

stating the towns on which he proposes to call the following week, all the customer records cards for those areas are taken out of the file and sent to him. They contain details of previous visits and of orders obtained both by the traveller and through the post.

At the end of each day, the traveller sends back the cards for customers on whom he has called, suitably filled in. Head office can then bring the main record cards up to date, and return the customer card to its place in the file.

New-style course for overseas salesmen

NEW method of giving overseas representatives a refresher course on company sales methods and products was recently tried out by Clarkson (Engineers) Ltd. After an initial conference to discuss technical and development matters, each overseas manager was teamed up with a U.K. technical representative undergoing a normal works training course. The two then spent a whole day together, the U.K. man receiving his normal training—play-acting sales situations, working machine tools, etc. Off-duty moments were also spent together.

The job of the overseas man was to make a report on the representative with whom he had spent the day. These reports were in turn assessed by the sales director. The result was

that executives from abroad were given a refresher course while actively participating in the training of someone else. Fresh ideas on products and techniques were teamed with constructive discussion of company policy in sales matters.

How to make your prospects listen

TWO more firms have gone in for recorded sales messages relayed to telephone receivers at exhibition stands (see Management at Work, February issue).

1—Modern Telephones Ltd. used three *Emidicta* message relay units on their stand at the Business Efficiency Exhibition in June. The object was to keep prospects interested until a salesman was free to attend to them, and to save salesmen from having to spend time on sightseers.

A printed notice invited the public to press a key on one of three master stations on display. This produced an amplified one-minute sales talk about the equipment. The company state that, in their opinion, one minute is the maximum time such a message should take.

2—Remington Rand Ltd. used a tape recorder with a continuous loop belt for their scale-model *Univac* exhibit which was on show at the Science Museum, Kensington, until mid-July. When one of the telephone receivers surrounding the exhibit was

lifted, the recorder started to transmit an informative description of the computer.

Special point about this example (designed and built in the U.S.) was that metal strips on the magnetic tape acted as trigger relays. They operated a selector device, and caused that portion of the model that was being described to light up.

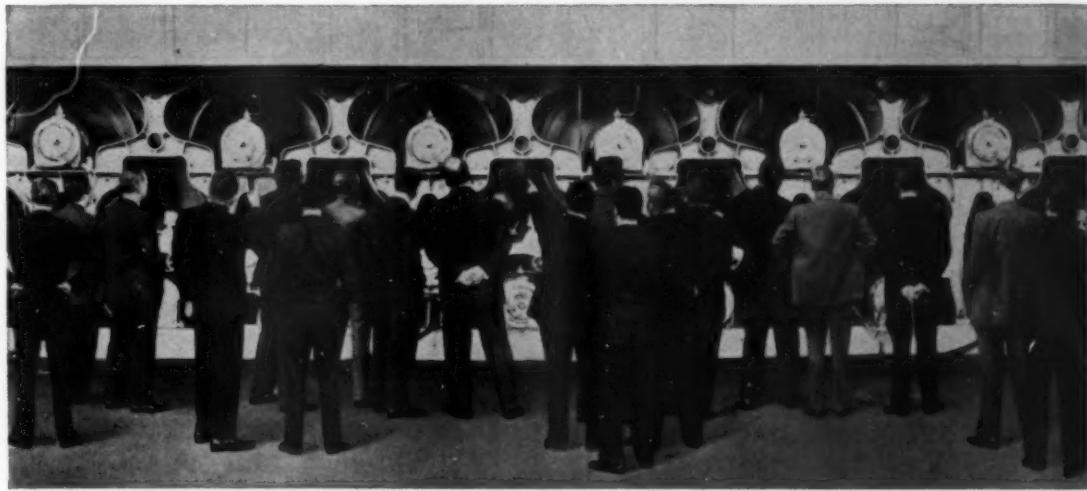
Efficiency expert cuts shopping delays

LEWIS'S, the department store group, employ a full-time methods study expert to raise productivity and simplify work in their stores. Two years ago he investigated the question of staff shopping in the Birmingham branch.

A string diagram revealed that to make seven typical purchases an employee had to walk 1,440ft. For each purchase her shopping card had to be endorsed at a central desk; then she returned to the sales counter to pick up the article bought. Result: sales were being lost to outside firms, and staff goodwill was prejudiced.

Reorganization resulted in a new form of shopping card being introduced. Walking distance for the same seven purchases was reduced to 400ft. Result: staff purchases have increased 30-40 per cent. This means considerable business for the store, which employs about 1,700 people. It also means money saved by employees, who get a discount.

Portrait of a team of 19 company heads



They're men with an interest in common — the Reed Paper Group, an integrated, efficient industrial body which deals with every aspect of making paper and paper products. But they're also the managers of 19 separate yet major companies in the Group. Each of these, while having access to Group resources, retains its individuality and independence, and understands the character and aims of the Group so well that it can think and act *for itself*.

What makes this possible? . . . it is that Reed has based its whole approach to business on informal, *personal* dealings. Management Training Courses — held from time to time to enable executives of the various companies to appreciate one another's

problems and get to know one another socially — are merely one concrete example of this personal, flexible way of working. In fact, it applies *all the time* at all levels in the Group. The men-on-the-spot have the responsibility — and the initiative to see any job through to your best advantage. Yet should need arise, they have only to pick up their telephones to draw upon the central resources and specialised knowledge of the Group.

Informal efficiency is the keynote. It is why your every meeting with a Reed manager, salesman or technician can be so refreshingly satisfying and profitable. It is why your every dealing with a Reed company can give you the best and right materials for *your* needs.

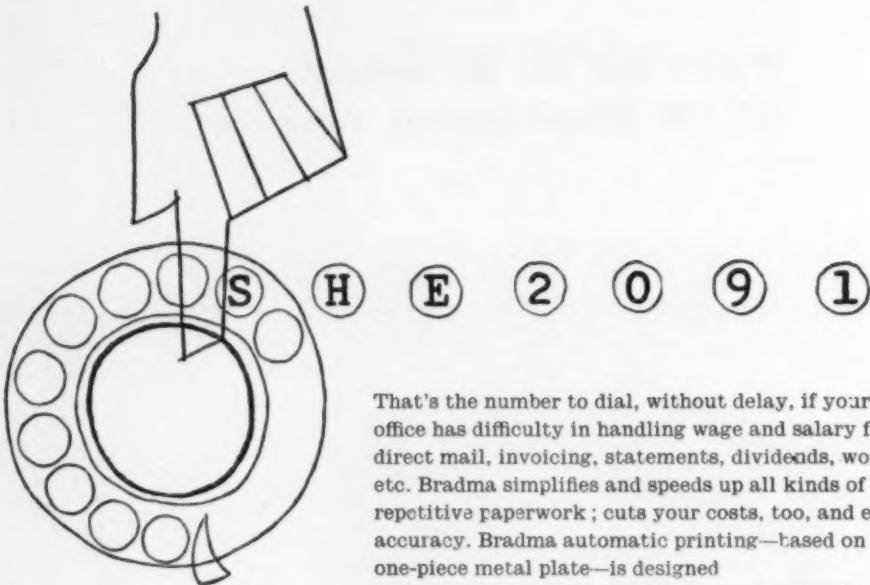
**"YOU profit from the initiative of each Company
backed by the resources of the Group"**



ALBERT E. REED & CO. LTD. (AYLESFORD, TOVIL AND BRIDGE MILLS) • THE LONDON PAPER MILLS CO. LTD. • EMPIRE PAPER MILLS LTD. • THE SUN PAPER MILL CO. LTD. • CULTHROP BOARD & PAPER MILLS LTD. • THE SOUTHERN PAPER STOCK CO. LTD. • E. R. FREEMAN & WEScott LTD. • REED PAPER SALES LTD. • REED CORRUGATED CANES LTD. • CONTAINERS LTD. • POWELL LANE MANUFACTURING CO. LTD. • CROPPER & CO. LTD. • CUT-OUTS (CARTONS) LTD. • PAPER CONVERTERS LTD. • MEDWAY PAPER SACKS LTD. • BROOKGATE INDUSTRIES LTD. • REED FLONO LTD. • THE KEY ENGINEERING CO. LTD. • HOLOPLAST LTD.

In association with Kimberly-Clark Ltd., makers of "Kleenex", "Kotex" and "Delsey" (Regd. T.M's).

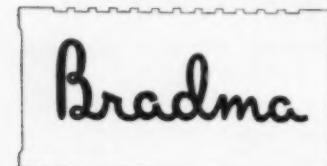
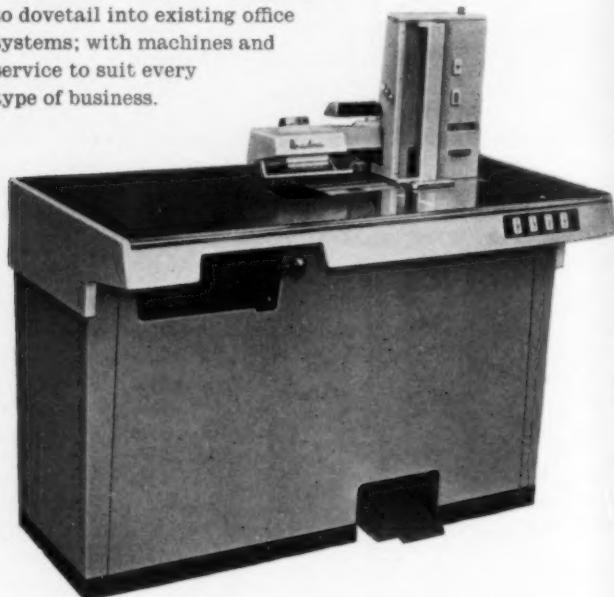
THE REED PAPER GROUP HEAD OFFICE: 105 PICCADILLY, LONDON, W.1.



That's the number to dial, without delay, if your office has difficulty in handling wage and salary forms, direct mail, invoicing, statements, dividends, work tickets, etc. Bradma simplifies and speeds up all kinds of repetitive paperwork; cuts your costs, too, and ensures accuracy. Bradma automatic printing—based on the one-piece metal plate—is designed to dovetail into existing office systems; with machines and service to suit every type of business.

Here, for example, is the BUCKINGHAM MODEL, Bradma's versatile, power-operated heavy-duty machine, for tackling every variety of systems, printing and listing work, when a really high output is essential.

Adrema Ltd.,
Telford Way, London, W.3.
SHEpherds Bush 2091.



means business

BUSINESS SYSTEMS EQUIPMENT

BUSINESS BOOKSHELF

EFFECTIVE INDUSTRIAL MANAGEMENT by James L. Lundy (Macmillan) 44s. Nearly 600 pages of well-written, well-signposted text, aimed specifically at students. Firmly convinced that the management function is universal, the author (a professor at the University of Minnesota) picks out principles by analysing the advantages and limitations of current management techniques. His intention is that the book should "contribute to the supplanting of descriptive teaching with insight and understanding."

Certainly the approach is practical. "Background" subjects are almost entirely overwhelmed by "tools"; for example, a sub-section on the use of Gantt charts in production control is four times as long as one on the Industrial Revolution.

The pace is a little breathless, but this, perhaps, is unavoidable in a "comprehensive" management text-book. Undoubtedly it is worth the attention of young executives who want to gain a working appreciation of techniques which they may eventually use or direct.

The only chapter which gives strictly American information is one dealing with the development of collective bargaining.

ACCOUNTANCY EXPLAINED by W. T. Dent (Gee) 25s. Intended for the lay businessman rather than the student, this is a moderately successful attempt to explain accountancy in simple terms. On balance, it is not, however, more successful than most elementary textbooks. In fact the idea is probably mistaken, that any major field of knowledge, such as accountancy, can be explained "simply". Anyone who wishes to study such a body of knowledge, even at an elementary level, must be prepared to exercise a considerable amount of mental discipline.

MAN AND AUTOMATION by L. Landon Goodman (Pelican) 3s. 6d. Aimed at the layman and the specialist who wants to read about developments in fields other than his own, this paperback contains more factual information than some impressive tomes on automation. It is divided into two parts: technical aspects; and social, economic and other aspects.

The author is the British Electrical Development Association's industrial specialist, and lectures widely on management and technical matters.

AUTOMATIC CONTROL (Bell and Sons) 10s. 6d. Based on plain-language articles from *Scientific American*, this book tries to cover a lot of ground in its 150-odd pages. Chapters on the principles of control are interesting but those describing applications (for example, a 3,000-word all-American view of the automatic office) are inevitably sketchy.

THE DIRECTORY OF BRITISH EXPORTERS 1957-58 (Benn Brothers) 35s. Contains a directory of directories, information about transport facilities, a list of merchant shippers, a classified buyers' guide and a trade mark and name section.

COPYRIGHT AND PERFORMING RIGHTS by W. J. Leaper (Stevens and Sons) 25s. The Copyright Act, 1956, which came into force three

months ago, considerably amended the law on these complicated matters. Much of this very practical book deals with the effects on literary and other artistic works. But for the businessman there is a 22-page chapter on the registration and protection of industrial designs.

BUSINESS REPORTS by C. R. Anderson, A. G. Saunders and F. W. Weeks (McGraw-Hill) 45s. Third edition—completely re-written—of a book first published in 1929. Running to more than 400 pages, it develops a basic plan for writing reports of all types, from short memos to long, formal reports. Many good and bad examples are given, and the text (as might be expected in a book on this subject) is carefully broken up and sign-posted.

HIGHER CONTROL IN MANAGEMENT by T. G. Rose (Pitman) 30s. Sixth edition of the well-known text first published in 1934.

INCOME AND WEALTH, Series VI, edited by M. Gilbert and R. Stone (Bowes & Bowes) 42s. A series of papers delivered to the International Association for Research in Income and Wealth, discussing the income distribution of some of the more advanced countries of Europe, North America and the Commonwealth.

Are Your Costs and Prices Realistic?

Does your thinking take account of changing values? So many things have gone up in price—labour, machinery, supplies, professional services and finished goods. This table, based on the retail price index, gives you a rough set of conversion factors for bringing your values up-to-date. For example, if you spent £100 on a machine in 1931, for which year the conversion factor is 2.77, then you could hardly be surprised if a similar machine now costs £277. It may actually cost more or less, but you would expect values generally to be around 2.8 times the 1931 level. This table will be brought up-to-date every quarter, but published monthly, for handy reference.

Year	Conversion Factor	Year	Conversion Factor
1913	4.12	1934	3.20
1919	1.89	1935	2.86
1920	1.66	1936	2.80
1921	1.83	1937	2.66
1922	2.25	1938	2.63
1923	2.35	1946	1.71
1924	2.35	1947	1.62
1925	2.35	1948	1.51
1926	2.40	1949	1.47
1927	2.46	1950	1.43
1928	2.48	1951	1.27
1929	2.51	1952	1.19
1930	2.61	1953	1.15
1931	2.80	1954	1.13
1932	2.86	1955	1.08
1933	3.20	1956	1.03

The B.R.S. management manual co-ordinates the work of many different units—without destroying personal initiative

It's All in the Book of Words

By WILLIAM GUTHRIE

BRITISH Road Services is an amalgam of nearly 4,000 large and small businesses throughout the country. Its local managers are in many cases the former owners of those businesses. Some of them ran large and well-organized fleets, but others had only a few vehicles. In many such cases the proprietor

drove one of his own lorries while his wife looked after the accounts.

On being brought into the nationalized undertaking, some of the small men found themselves in charge of 100 or more vehicles and thousands of pounds worth of property—and with administrative problems outside their previous experience. Somehow

The Manual

- 1—Standardizes procedures**
- 2—Concentrates on normal day-to-day running of business. (No attempt to foresee every eventuality)**
- 3—Gives each manager an insight into other managers' problems**
- 4—Provides a channel for informing managers of decisions immediately they are taken at headquarters**
- 5—Is supported by a system of management meetings, which check that its amendments are read, discussed and understood**

they and the fleets they controlled had to be welded into a cohesive whole.

The B.R.S. management manual has played a large part in achieving this.

What it does

In conjunction with a system of managerial meetings, the manual provides the framework of control throughout the organization. It answers most of the problems likely to be met by a manager in the course of his work, from the form that various kinds of reports should take to the standard procedure to be followed when engaging staff.

Its loose-leaf form enables amendments and additions to be incorporated quickly. Although kept as explicit and compact as possible, it runs to two volumes and several hundred pages. Two other important channels, a management bulletin and a series of policy and instruction booklets, are therefore used to help interpret it.

To foresee every possible emergency would be impossible. The manual is concerned only with normal day-to-day running. Its instructions are classified under seven headings: *Traffic; engineering; stores; staff; surveying and architectural; finance; and secretarial (administration and organization)*.

The manager is provided with far more information than he needs for his immediate job. But B.R.S. finds that the 'extra' gives him an insight into his colleagues' problems.

Where standard instructions are issued on a wide scale there is always the danger that they will stultify the organization. An unenterprising manager could make a specific instruction an excuse for not taking a snap decision to meet a local emergency. But B.R.S. managers are left



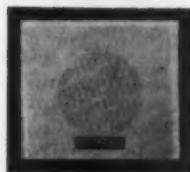
internal control . . .

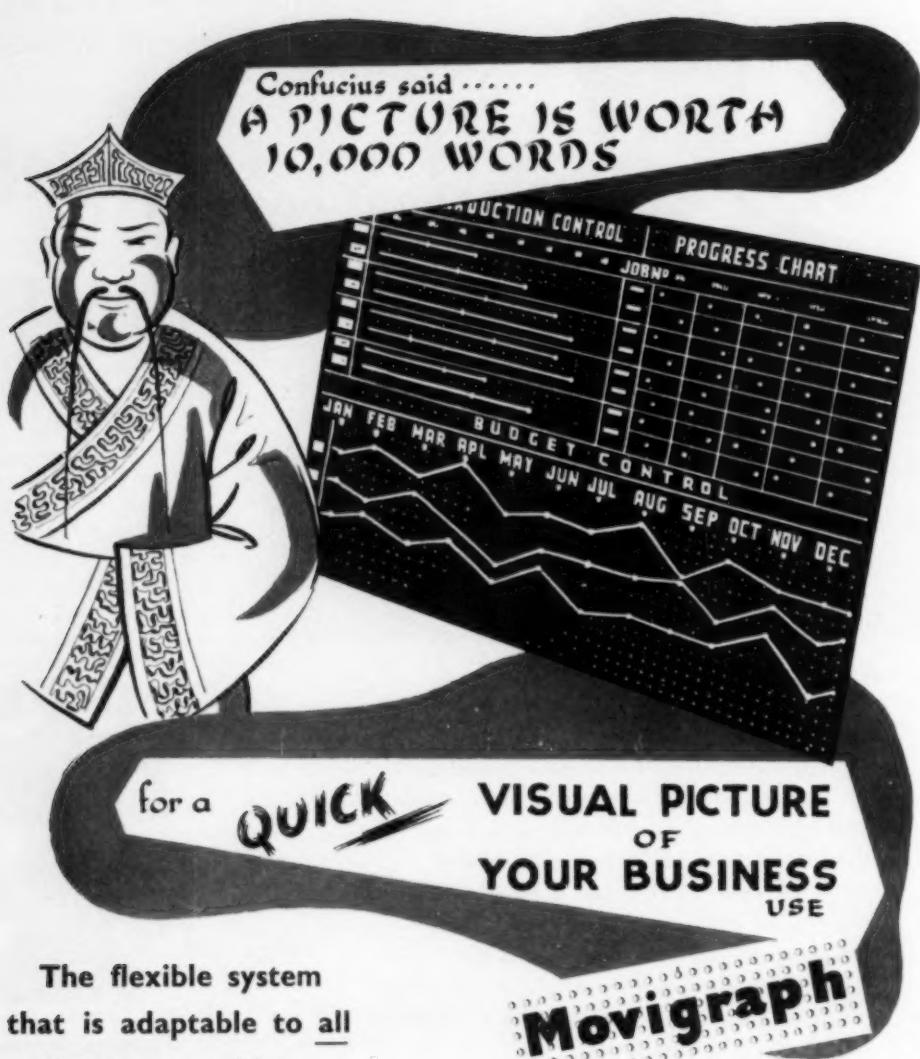
...with DICTOGRAPH

Dictograph have welded their many systems into one service. Now one team of engineers is able to plan and install all the systems a customer requires. How much easier it is for our organisation to install the Office Clock system at the same time as the Internal Telephones and the Staff Location. Your staff are only disturbed once and the problems of each system are faced at the same time. All systems serviced and maintained under guarantee. The Complete Unified Service Internal Telephones, Staff Location, Industrial Music, Audible Time Signals, Master Clock Controlled Time Systems For Large and Small Organisations.



DICTOGRAPH
TELEPHONES LIMITED
200 ABBEY HOUSE, WESTMINSTER, S.W.1.
ABBEY 5572-6
27 Branches Throughout the United Kingdom & Ireland.





The flexible system
 that is adaptable to all
 charting problems

ADAPTA-CHARTS LTD. (Dept. 'B') 129 Hammersmith Road, London, W.14.
 NEAR TO OLYMPIA — Telephone FULham 1063-1064

Please forward Literature to:

Messrs.

For the attention of
 Application

CUT OUT
 AND SEND
 TODAY FOR
 SPEEDY REPLY

in no doubt on this point. Service to customers, maximum long-term profit, and commonsense are the criteria on which they must base all decisions. The manual is only a guide.

In drafting instructions full play is left for individual ingenuity by avoiding rigidity as far as possible. The maintenance of vehicles is one case where rigidity is needed. But even here it is a rigidity of principle rather than of detailed application. Customer requirements may override normal B.R.S. priorities and the practical implementation of maintenance schedules is a matter for on-the-spot agreement between traffic and engineering staff.

No engineer would take a vehicle out of service because of a torn mud-guard, and no traffic official would insist on running a vehicle with poor brakes. But often the issue is not so clear and there is some risk of inter-departmental clashes. For instance, the postponement for a fortnight of a major overhaul might suit the traffic staff but unbalance the engineers' maintenance schedule. In certain circumstances—say, the winning of a valuable contract— even this would be justified. The manual lays down clearly whose opinion should generally prevail or to whom the issue should be referred.

The comprehensiveness of the manual can be gauged from the fact that the traffic section, one of the largest, runs to hundreds of paragraphs. Each section starts with a statement of general principles, giving a rough guide in cases not covered by the detailed instructions. Here is the sort of information that appears in the manual:

Traffic: First the principles. Every enquiry must be accepted, whether or not the branch or district concerned can deal with it; no customer is to be referred from one unit to another. Changes in B.R.S. organization must affect local customer relations as little as possible. Important changes in policy must be conveyed to customers by senior staff, to maintain goodwill. Then follow a mass of detailed instructions,



How B.R.S. are Organized

British Road Services have 16,000 vehicles and 40,000 employees. These are controlled by two parallel chains of command—a system of local units supported by specialist departments like finance and engineering.

At London headquarters a board of four full-time and two part-time members are headed by the Chairman and General Manager, General G. N. Russell. The heads of the specialist departments advise the board on specific problems.

Under the direct control of H.Q. are six geographical divisions. Each of these is divided into four or five districts, and these in turn comprise four or five branches. A branch normally operates between 100 and 200 vehicles and consists of one or more depots with ancillary establishments like storage sheds.

Specialist staff are restricted to divisional or district levels.

Local circumstances vary greatly: a surveyor can cover a whole division while an accountant is normally necessary for each district.

Specialists do not take all their orders from line management. Generally speaking 'policy' is dictated by managers, but technical instructions to specialists come from senior specialists.

General Russell considers that these parallel chains of command, the 'line and staff' principle, work well. Obviously this system carries the risk of occasional differences of opinion between managerial and specialist staff. But one of the reasons why such clashes are infrequent is that standard procedure for every likely action is laid down in the manual.

covering co-ordination of rates throughout the country, special insurance arrangements, and advice on operations.

Stores: The procedures for obtaining and issuing parts; forms; the use of stock ledger cards in connection with re-order levels. These instructions are primarily for the stores officer or assistant.

Engineering: This section is also mainly for specialists at all levels. The objectives—to keep vehicle efficiency as high as possible and maintenance cost per mile as low as possible—are set out in the introduction. Then follow technical instructions.

Staff: First an outline of the organization of the staff and welfare de-

One of the most important sections of the manual concerns maintenance. But even here there is plenty of room for branch managers to vary instructions to suit current conditions



partment and the ways in which it advises. Then advice on keeping individual staff records, engaging new staff (with model letters of engagement), and redundancy procedure. Other items include subsistence allowances, granting of time off for civil defence, and joint consultation.

Surveying: How property is to be acquired, rented, repaired, or disposed of, up to certain financial limits, without special authority.

Finance: Mainly for financial officers and assistants. The current account is the link between headquarters and the various levels. Main headings: Accounting, financial control, statistical control, costing, and audit arrangements.

Secretarial: This contains administrative, organizational, and legal advice. Examples: Procedure for dealing with legal proceedings and road offences; the length of time that various types of documents are to be kept; the way to put embezzlement investigations in hand; the relation

of the Transport Police to B.R.S. and the ordinary police.

In all cases instructions are identified by the code MM/ followed by the first three letters of the name of the section and its number in the section. Thus the instruction dealing with general accounts procedure is MM/FIN/110.

Keeping it up-to-date

Additions or amendments are issued at the rate, on average of about four or five per month. This work is the responsibility of heads of departments. Thus all financial instructions are compiled by the chief finance officer, all traffic instructions by the chief traffic manager, and so on. Before being circulated they have to be approved by the general manager.

Where there is no particular urgency, the amendments are sent for printing. But this procedure does not satisfactorily cover: (1) Cases of emergency; (2) Events of short duration; (3) Filling a gap until a manual instruction can be produced and printed; and (4) Cases where

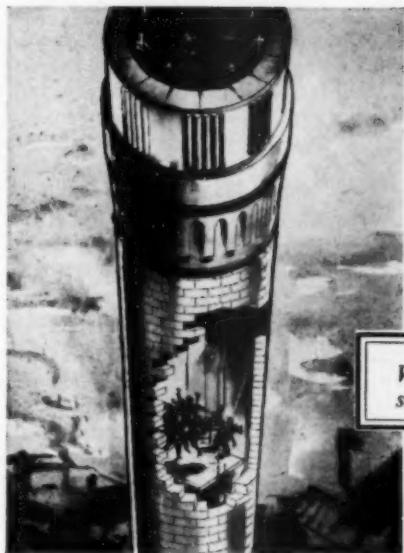
action has to be taken once and for all, like the increase of rates.

For these purposes **management advice circulars** are used. Like manual instructions, they are compiled by departmental chiefs. But instead of going to the printer they are reproduced by stencil duplicating. Numbered in the same way as the instructions they amend or supplement—except that their prefix is MA instead of MM—they are then distributed by headquarters.

Every holder of a manual is responsible for ensuring that it is kept up-to-date. He must not only see that new instructions are fixed in the binder immediately they are received, but also take steps to implement them. MA circulars are filed separately unless they refer to a subject in the manual; in that case they are filed in the appropriate place until an instruction is printed.

Distribution

Manual instructions are distributed by headquarters to divisional and district offices. Branches, depots and



THIS JAM WAS LETHAL

Four men descending from the top of a new chimney were riding on a materials hoist when the hoist jammed owing to unequal thickness of the guides, and some slack ran out in the rope. The jam then cleared itself but the brake failed to hold the platform, which ran free until the slack was taken up with a jerk. Two passengers were shaken off and killed.

What **Vulcan**
say about it . . .

Users of cranes and hoists seem unusually accident-prone, so safety regulations should be meticulously enforced. Two such regulations went overboard here.

Engineer-surveyors from Vulcan Insurance not only test ropes, tackle and all the machinery of lifts and hoists they insure, they also help in safety education.

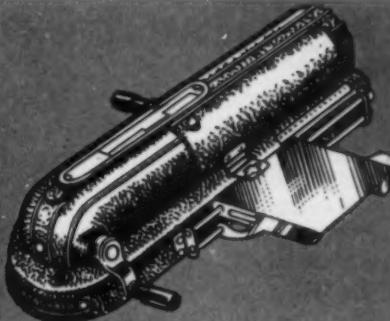
If you know the pains they take over boilers you will welcome their attention to all the plant and machinery in your care.

THE Vulcan 67 King Street, Manchester 2
BOILER & GENERAL INSURANCE CO. LTD

FREE
For news of industrial accidents and ways to avoid them ask us now for "Vulcan"—a quarterly journal for Power users. Please write to Dept. 4.



**Faster...
easier way
to write
cheques**



Ever counted the man-hours lost on hand-written cheques? The annual figures are staggering—but not when you use a Protectograph Cheque Writer. You save time and labour. Protectograph cheques are more legible too . . . more distinguished and safe as a bank note. Used throughout the country by banks, Government Departments, municipal authorities and commercial firms, the Protectograph is the most reliable and most inexpensive cheque writer. It gives 100% security for cheques, bills, letters of credit, etc.

PROTECTOGRAPH CHEQUE WRITER

Send for illustrated literature TODAY

HALSBY & COMPANY LIMITED, DEPT. B.4, 52 DEAN STREET, SHAFTSBURY AVENUE, LONDON, W.1

GERRARD 4163

SEPTEMBER, 1957

depot workshops get their copies through district offices. A copy goes not only to every manager but also to every divisional and district specialist.

A copy is also sent to the administrative clerk of the branch. This is available to all other members of the staff who may want to see it. Depots and workshops get one copy each; even sub-depots get one unless their duties are such that guidance from the manual is not needed.

Some instructions are too confidential for general circulation. These are issued in another series, prefixed 'D,' which means that they must not pass below district level. Items which are even more confidential are marked 'DC,' meaning that they should not circulate below divisional level. However, such items are kept to a minimum, so that everyone, from divisional manager to depot superintendent, has substantially the same set of rules in front of him.

Understanding

Four methods are used to help

managers to understand MM instructions and the broad policy behind them:

1—A 'built-in' self-monitoring procedure. The secretarial section requires that meetings of managers should be held at given times. The frequency of meetings, where they should be held, who should attend, and what should be discussed, are all stated. One item on the agenda is always the reporting of manual amendments and additions, and also of the steps taken to implement them.

These meetings are complementary to the manual and every manager and depot superintendent in the organization participates at one stage or another. Here is how the system works.

Once a quarter all divisional managers are called to the London headquarters to confer with the board of management, along with departmental heads, under the chairmanship of the general manager. This is the first step in conveying new policy ideas from board to depot. On returning to their divisions, the man-

agers hold meetings with their district managers and divisional specialists (accountants, engineers). District managers, in turn, hold the same sort of meeting at each branch or depot.

The flow of ideas is not all one way. It is the job of each manager to sound his subordinates as to their attitude to present and proposed policy, and to report what he hears to his superior. In this way the board eventually learn what their decisions mean at depot level.

2—The Management Bulletin. This is issued monthly or bi-monthly. None of the items in it has to be obeyed like manual instructions. They are meant to direct the thoughts of managers to new opportunities for business or to losses or accidents which occur through failure to observe established precautions.

The bulletin contains news of recent appointments. It often draws attention to the latest amendments to the manual. One of its most important functions is to reflect policy as this formulates in the minds of the board of management. Lower

A WHOLE DAY'S COPYING *in less than an hour*

The new 'Verifax' Copier will enable you to do the equivalent of a whole day's copy typing in less than an hour (for example, up to six copies each of 40 to 50 documents).

The copies are produced dry, ready for immediate use, and are permanent. Being photo-facsimile copies, they do not need to be checked.

The Copier is self-contained, requires little more space than a typewriter, and fits comfortably into existing office routine. And everyone in the office can use it. Full details will be sent with pleasure.

ANYTHING written, typed, printed or drawn, up to 8½ x 14 inches, single-sided or double-sided, can be reproduced on the 'Verifax' Copier in less than one minute.

THE

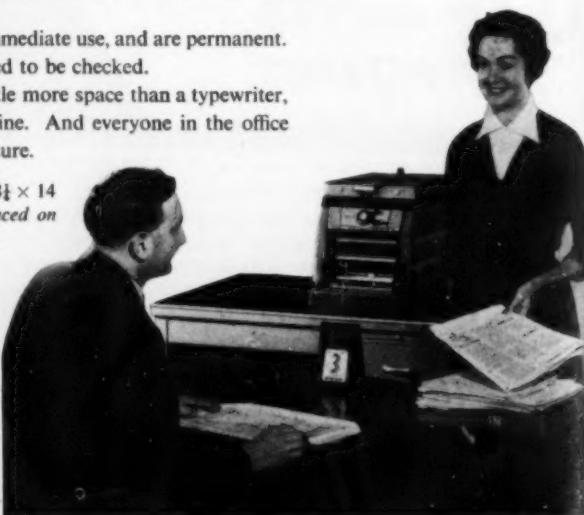
Verifax
COPIER

made by Kodak

PHOTOSTAT LIMITED, DEPT. 216

1-4 BEECH ST., LONDON, E.C.1 Tel: Metropolitan 0311

'Verifax' is a trade-mark of Kodak Limited.





the
new
British
typewriter

outstanding for **quality**
performance and **durability**

HIGH SPEED!

High operating speed with minimum effort. Variable key action pressure to suit individual touch.

LIGHT IN WEIGHT!

At 34 lbs., it's one of the lightest standard machines on the market. Yet this has been achieved without sacrifice of strength or durability.

UNIQUE LOCKING DEVICE!

Both carriage and keyboard can be secured by a key-operated lock.

PLUS ...

—Clarity of type. Automatic margin setting. Resilient rubber mountings to ensure remarkable quietness. Unique positioning, design and simplicity of controls—all these are but a few of the many features of the new Byron Mark 1.

BYRON BUSINESS MACHINES
Makers of Typewriters for over 30 years

Arnold Road, Nottingham * Phone: Nottingham 73061
London Office and Showrooms: Ingersoll House, Kingway, W.C.2
* Phone: COVent Garden 2171

SEPTEMBER, 1957

Quick Wordsworth...

DEFINE OUR NEW "MILSUITE"—

before I count three . . .

"Though priced like an ordinary desk, Sir . . ."

"ONE"

"It really is a quality desk, Sir . . ."

"TWO. Hurry Wordsworth"

"Fit for top-grade executives—like yourself, Sir . . ."

"AND THREE, right on the mark Wordsworth—

but remember—no more

paper clips in my tea . . ."



WHAT WORDSWORTH LEFT UNSAID :

—the "Milsuite" desk is available in three double and three single pedestal models and three combinations of two-tone colours (green, beige, grey), also in standard grey and green.

—8 alternative arrangements of drawers in pedestals.

—all drawers take foolscap folders in their width, and are controlled by centre drawer lock.

—pull-out shelves and recessed back. All edges rounded, and no crevices for dust.

—adjustable screw feet for levelling desk.

THE NEW

Milsuite

For further details write, call or phone CENtral 0041

Chatwood-Milner Ltd.

Central Sales Office: 58 HOLBORN VIADUCT, LONDON, E.C.1



Residential courses are used by top management to explain policy. Staff from all over the country exchange views on common problems

death due to a loose tarpaulin blown from a lorry—a reminder to ensure that safe practices are observed.

3—Policy and Instruction Booklets.

These are written by members of the board and departmental officers. So far, about a score have been issued on general as well as technical subjects. By and large, they expand on the necessarily laconic statements of policy in the manual.

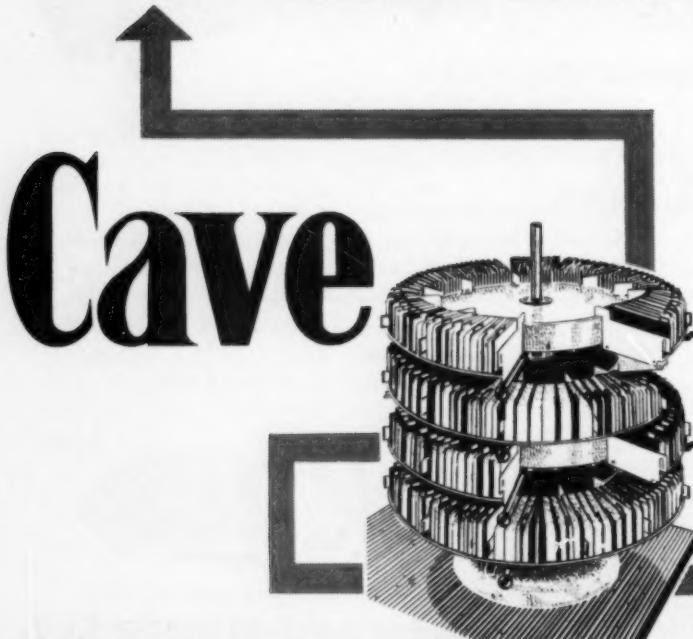
4—Staff College. To enable managers and staff to get to know more about each other B.R.S. ran for several years a residential staff college at Watford. Staff of every level from all over the country attended one-week courses. The building was subsequently taken over for other Transport Commission work, but another staff college is being prepared at Windsor.

END

management is thereby kept in a receptive state and instructions or amendments to the manual do not burst on them from the blue.

Here is the sort of information carried by the bulletin: News of important agricultural shows to be held in various parts of the country—a hint to go out and get business; a list of sales of government surplus equipment—this may be of interest to stores officers; a report of a cyclist's

THE "HORIZONTAL CARDWHEEL"



- From 1 to 10 wheels can be mounted on one shaft.
- The Unit occupies a floor space of only 3ft. by 3ft.
- A mere touch of the finger rotates the wheels in either direction.
- Fatigue entirely eliminated—Operator can refer to thousands of records from a sitting position.
- Records completely free—singles or blocks of records easily inserted or removed.
- No disturbance to filing sequence.
- Your existing records can be used.
- Accommodates ordinary index cards, punched cards, documents in wallets or files, bound records, books, etc.
- Specially designed for offices with a large number of records where speed of reference and economy of space are essential.

MORE AND
MORE - IN THE
SAME SPACE !

C. W. CAVE & CO. LTD., DEPT 'B', 59 HOLBORN VIADUCT, E.C.1 CEN 8402

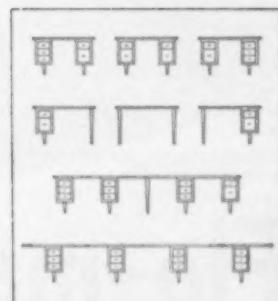
Let
SCULTHORPS
 (THE SPECIALISTS)
 plan your advertising gift campaign



UNIT DESKING by LEABANK



Fractional Adjustment
 No fixed centres
 Every INCH of valuable
 floor space utilised
 Styled and designed
 in the
 Leabank modern
 tradition at a minimum
 investment



Complete range of
 steel office furniture and factory seating—

Truly capable of reflecting the efficiency of a successful office, Leabank furniture has been designed so as to blend both utility and good looks in a most pleasing combination.

LEABANK naturally continue to offer their luxurious matching executive suites—the latest Desks, Chairs, Filing Cabinets and Ancillary equipment.

If you require advice in office planning consult:

LEABANK OFFICE EQUIPMENT LIMITED, CLIFTON HOUSE, EUSTON ROAD, LONDON, N.W.1.

SEPTEMBER, 1957



*live changed
to Flo-master*
because it
marks on
ANY SURFACE

Managers and buyers in works and offices all over the country specify Flo-master for all forms of marking because it is the most reliable medium available today.

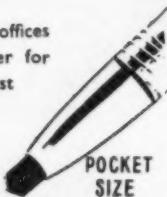
- and for
STENCILLING

The King Size for heavy industrial purposes is either used with the normal felt tip or with an interchangeable head to provide a constant feed stencil brush.

There are a hundred and one uses for Flo-master.

Fade-resistant inks available in 10 colours.

Interchangeable felt tips provided for different widths of line.



Flo-master

FELT TIP PEN

Send for illustrated leaflet

CUSHMAN & DENISON CO., LTD.

DEPT. G, 215/217 Coldharbour Lane, LONDON, S.W.9

Telephone : Brixton 0747-8-9



**STICKLERS
FOR
GOOD
'STACKABLES'
CHOOSE
*LAMSTAK!***

Regd. Trade Mark

... moulded laminated beech furniture from E.S.A. Because Lamstak chairs combine strength with easy-to-handle lightness, clean modern lines with superb comfort. Lamstak chairs and armchairs are available with or without furnishing fabric upholstery. Matching stackable dining tables come in two sizes: 48" x 27" and 30" x 30".

Write today for brochure detailing all E.S.A. furniture to :—E.S.A. Ltd., Esavian Works, Stevenage, Herts. Tel: Stevenage 500, or 101, Wellington St., Glasgow, C.2. Tel: Central 2369. Well worth investigating.

SPECIALISTS IN STACKABLE FURNITURE



In the race for management 'Know-how'...

ORLID

play an important roll

For over 30 years, ORMIG G.m.b.H., (who manufacture ORLID Systems Machines and Spirit Duplicators) have led the world in the mechanization of offices and works. A staff of specialists is maintained at principal centres throughout Great Britain, who are qualified to advise on problems, without obligation or charge, such as production control, material control, progress, machine loading, order-despatch and invoicing, etc., etc. Write or telephone for full details and ...

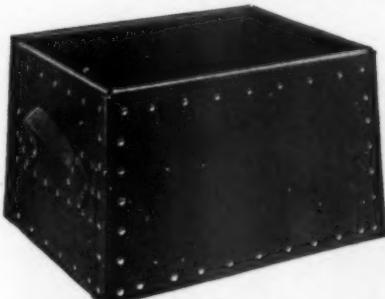
let ORLID 'Master' your problems



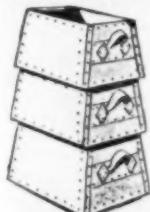
OFFICE EQUIPMENT DISTRIBUTORS (B.T.L.) LTD. (A subsidiary of British Typewriters Ltd.)
Head Office: Empire Works, Birmingham Road, West Bromwich, Staffs.
London Office and Showrooms: Empire House, 34-35 High Holborn, W.C.1.
Branches—Agents—Service in ALL Principal Centres.

Tel: West Bromwich 2331
Tel: Holborn 0936

Fibre Board Bins, Trays and Boxes MEAN LIGHTER WORK FOR YOUR STAFF



STACKING TRAY



QUEENSWAY • ENFIELD • MIDDLESEX
DH8/20518

SEPTEMBER, 1957

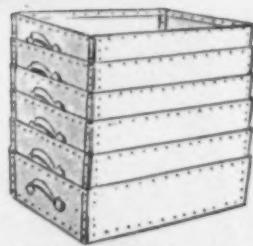
ENFIELD

BOX COMPANY LIMITED

Phone HOWard 1888



NESTING TRAY



Yes, they'll work better without the fatigue of carrying or stacking heavy boxes, and production will benefit as a result. Fibre Board is the answer! Light, yet strong, ENFIELD Boxes, Bins and Trays are especially appreciated by female workers.

Enfield Boxes can be manufactured to your specific requirements. Please write to us for full details on your own particular problems.

Please send free literature without obligation.

Name _____

Address _____



—a thousand and one uses—

Every office, every department, every business needs Durathin perfect coloured pencils for graphs, maps, accounts, and all records. Make your mark with a Durathin and create a permanent impression. *Durathin leads are:*

- ★ **IMPERVIOUS TO WATER**
not subject to destruction by weather, accidental wetting.
- ★ **SMEAR PROOF**
will not set off or smudge even by contact with moist hands.
- ★ **EXTRA TOUGH**
will not crumble or break even under hard pressure.
- ★ **SUPER FINE**
Can be sharpened to a needle point.
- ★ **LONG LASTING**
Points make thousands of impressions with one sharpening.
- ★ **MADE IN 24 VIVID COLOURS.**

VENUS
DURATHIN
perfect coloured
PENCILS

MADE BY THE VENUS PENCIL CO. LIMITED

What the rails
are to an
engine driver . . .

**Multimatic
Tabulator**

is to the typist

Since the rails take over the steering, the engine driver can concentrate entirely on driving. Multimatic Tabulator acts as the 'rails' on the Halda Star, and automatically positions the carriage for each heading. This permits concentration on the actual typing. The savings in time are substantial and the text arrangements are always models of neatness. Send for our special folder.



Halda Star, made in Sweden of Swedish steel and light metal, is sold and serviced in 102 countries.

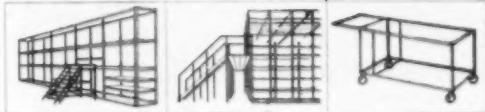
Sole Concessionaires for the U.K.:

**VALENTIN LIMITED, 35-36, Eagle Street,
High Holborn, London, W.C.1. Tel: CHANCERY 3676 (5 lines)**

HALDA
A FACIT PRODUCT



* The Handy Angle service offers free drawings, plans and quotations, with on-site erection where required



FIRST . . .

send for the FACTS !

Our Brochure clearly illustrates that HANDY ANGLE has . . .

greater strength, a greater variety of uses, greater price and discount advantages, greater range of sizes, shelves and accessories.

HANDY ANGLE

THE GREATEST SLOTTED ANGLE EVER !

Send for our Brochure No. 264

HANDY ANGLE LIMITED

GRAND BUILDINGS · TRAFALGAR SQUARE · LONDON W.C.2
Telephone: TRAfalgar 2551-5 · Cable: Handi, London

clean speaking

PHONOTAS

WEEKLY TELEPHONE
CLEANING & STERILISING
SERVICE

Branches throughout the country

THE PHONOTAS CO. LTD., 125 HIGH HOLBORN, LONDON, W.C.1

SEPTEMBER, 1957



HOLborn 7221



Office and Boardroom Furniture

Of Quality and Durability

WE INVITE ENQUIRIES FOR ALL TYPES OF
DESKS · TABLES · BOOKCASES
CUPBOARDS, Etc.,
in Oak, Walnut and Mahogany Finish

S. EPSTEIN LTD. Specialists in Contract Work for Hospitals, etc.
BEACHY ROAD, OLD FORD, E.3 Telephone: AMH 3633

Established 1886

No. 647



A FINE QUALITY EXECUTIVE DESK

5'0" x 3'0" figured Walnut-finish
Double drawer in right-hand pedestal.
All drawers fitted with four
lever locks. Top lined Skiver with
gold embossing.

Fully illustrated catalogue sent on request

THE **JETLEYS** FILING SYSTEM

SAVES SPACE

The bound book occupies only 45 per cent of the space taken up by any lever arch file, and therefore it . . .

SAVES MONEY

Rent and labour-saving efficiency. Documents in neat, inexpensive bindings, giving easy reference when no longer required in loose-leaf form and thereby . . .

GIVES GREATER SECURITY

No papers can be mislaid or put back in the wrong place, and is . . .

ADAPTABLE

. . . for in addition to standard equipment, this system can accommodate any size or type of document.

NO SYSTEM CAN COMPARE WITH IT

Available in Arch or Flat Cabinet Style Suspended or Non-suspended equipment.

'The book you make for yourself'

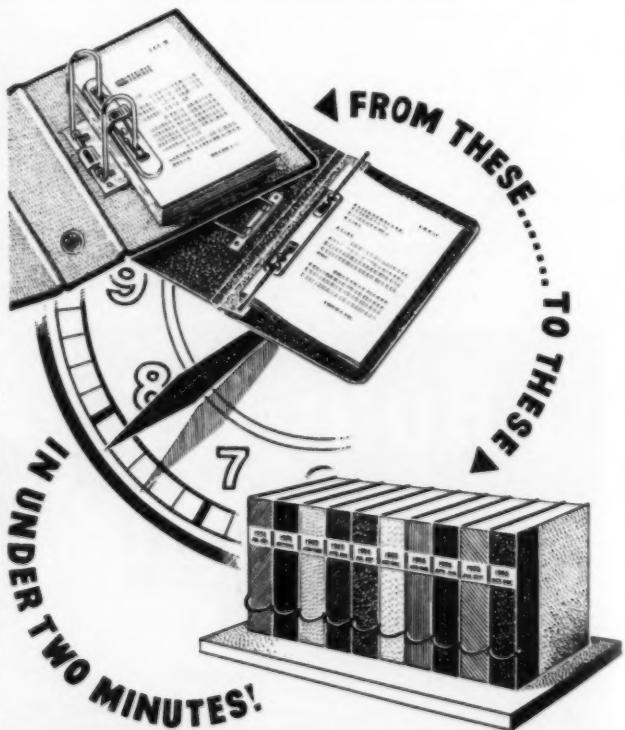
To JETLEYS (Great Britain) Ltd., Huddersfield, Yorks.
Please arrange a two-minute demonstration of JETLEYS,
without obligation on my part.

B4
FIRM

EXECUTIVE

ADDRESS

DATE



BUSINESS

When
it's a question
of
DUPLICATION



Whatever your business the Columbia 'Readymaster' System will provide up to 300 duplicates on any type of spirit duplicator, quickly, simply and economically. Every detail of the original sheet, including entries typed or written on the printed form is reproduced perfectly. Industrial and commercial firms all over the country are using the 'Readymaster' System for a wide variety of applications. Why not write or telephone for full details?

'Readymaster' features include

- * No stocks of printed forms—plain paper is all you need.
- * Combines Master and Carbon Sheet.
- * Perfect Registration.
- * Clean to handle.
- * Can be used for every Hecto duplicating job.
- * Ready for instant production.
- * Can be re-run.

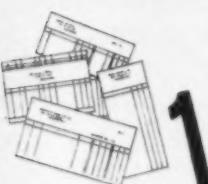
THE COLUMBIA
ReadyMaster
SYSTEM
IS QUICKER, CLEANER, MORE ECONOMICAL

THE COLUMBIA RIBBON & CARBON MNFG CO. LTD.

Systems Division

ASTORIA HOUSE · 62 SHAFTESBURY AVENUE
LONDON W1 · TELEPHONE GERRARD 1373/5

*
**there's not much
more a machine
could do!**



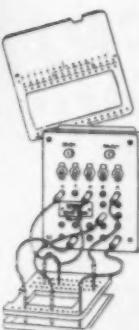
*

Addresses every kind and size of form . . . will duplicate, triplicate, repeat, skip, etc. . . . will handle every known name-writing problem. . . . Visible print, speed 3,600 addresses per hour.



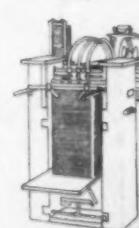
*

Automatically lists names, numbers, or other data in continuous column form on pay-sheets, dividend sheets, route lists, etc., up to 25 inches wide, via a Sheet Feed Attachment.



*

Automatically selects and addresses any given name classifications, or combination of same, from a general list, without disturbing the sequence of any stencil in the file.



*

Automatic suction feed can be fitted to this Model, and there are many additional attachments available for special applications.



Addressall
11-13 SOUTHAMPTON ROW, LONDON, W.C.1. HOLLOW 3571-3572

You're right-
you can make over
4,000 ticks

So tough, so resilient and so long-lasting are Verithin Coloured Lead Pencils that you can make over 4,000 check marks with only one sharpening. Think of the saving this means in your pencil costs. Think, too, of this other important fact — every one of these ticks is absolutely indelible. Rain or spilled water

won't make them run. Moist hands won't smear them. Rubbing cannot smudge them.

Another point. Verithin pencils can be sharpened to a needle-fine point and will hold that point under pressure. Order Verithin today and discover how downright dependable they are. 7d. each. In 25 vivid colours.



VERITHIN
COLOURED PENCILS

EAGLE PENCIL COMPANY, ASHLEY ROAD, TOTTENHAM, N.17

V.10

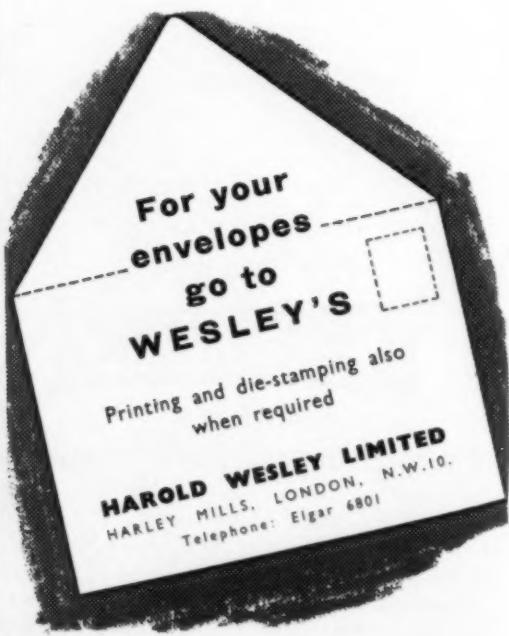
BISLEY
FIREPROOF
WASTE PAPER BINS
and FLOOR ASHTRAYS

You don't
need a
match to
start a fire
—a cigarette
end or pipe
ash may
do it . . .



Write for illustrated leaflet

F.C. BROWN • BISLEY • SURREY
FOR STEEL OFFICE EQUIPMENT



Sales offices at London, Birmingham, Leeds, Manchester, Bristol, Reading, etc.

NEW

EVERTAUT

All Steel
OFFICE CHAIR

**UTILITY
PLUS
EXTRA
COMFORT**

ENTIRELY NEW SEAT CONSTRUCTION ★



1. Cover with 'Lip-Grip' head (Pat. applied for).

2. Thick Latex Foam interlayer for extra comfort.

3. Scientifically shaped steel pan for greater strength, retains its shape throughout the life of the chair.



★ OTHER NEW EXCLUSIVE FEATURES

Oil-immersed centre screw and self-lubricating bush gives longer life, finer adjustment to seat height, and eliminates squeaking. Adjustments provide for height and angle of back-rest.

Write for catalogue No. S.I.

EVERTAUT SEATING LTD.

Proprietors J. B. Brooks & Co. Ltd.,

CROSS STREET, DARWEN, LANCS.

Phone: 1391-2. Grams: 'Seating, Darwen'

London Office: Kern House, Kingsway, W.C.2. Phone: HOL 0238



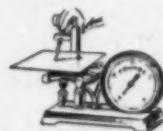
*but points don't break
when you use*

**EAGLE "CHEMI-SEALED"
MIRADO pencils**

Here's a pencil you can always rely on—Mirado. The points won't crumble or break under normal usage. For two reasons. The lead itself is of a fine, smooth and long-lasting quality, and the Eagle Patent Super-bonding process welds the lead and the wood casing into one inseparable unit, giving maximum resistance to breaks. Change to Mirado and watch your pencil costs decrease.

THE PRESSURE SCALE

breaks points so that you won't. The pencil presses down at normal writing angle. The dial shows that the weight needed to break the point is far above normal writing pressure.



EAGLE PENCIL COMPANY, ASHLEY ROAD, TOTTENHAM, N.17

Kwick-dry

The TOWEL THAT REALLY DRIES—AS THE NAME IMPLIES

PAPER TOWELS ARE HYGIENIC

For Factories, Offices, Schools, Hotels, Canteens, etc.
PROTECT THE HEALTH OF YOUR STAFF

Do away with the old germ-spreading communal roller
towel and avoid infection.

They are far cheaper too because they cut Laundry Bills,
Towel Losses, and Time Waste.

Kwick-Dry Paper Towels dispensed from our
Automatic Control Delivery Cabinet

TOWEL COSTS 50% CUT



Kwick-Dry Paper Towels are also supplied FLAT
INTERFOLDED in packets for which dispensing
cabinets and Soiled Towel Bins are available.

Ask for
details of
TRIAL
OFFER

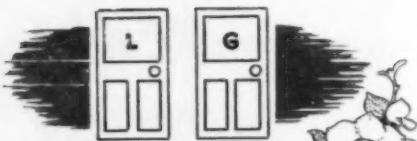
No possibility of chapped
hands and faces, or irritating
queues as with Expensive
Hot Air Drying Equipment.



Only one at a time
Dispensed from our
AUTOMATIC
CONTROL
DELIVERY
CABINET

Full details on application to Towel Dept.

FREEDER BROS. PAPER MILLS
BRIMSDOWN, ENFIELD, MIDDLESEX
Tel. HOWARD 1847 (5 lines). Grams: Sylkocrepe, Enfield



Behind these doors...

there's freshness
all the time - with

Aromatic TABLETS

THE PERFECT DEODORIZER



PATENT PLASTIC
HOLDER. A permanent fixture on the
door or wall. Tablets cannot be removed.
Price 4/- each
Post. 60328. Reg. 662807

"AROMATIC" DISINFECTANT BLOCKS

Mist and liquid disinfectants are only
a temporary measure... be assured
of PERMANENT toilet hygiene by
using "G" Blocks, a SOLID disinfectant
for Gentlemen's Toilets. Lasts
a considerable period - remain 100%
effective. Insoluble in water, needs
no attention.

3 doz. 3/- 6 doz. 6/- 12 doz. 117/-

Carriage paid on all orders over £5

"AROMATIC" AIR PURIFIER TABLETS

For a refreshing atmosphere, free
from unpleasant odours, the most
effective and by far the cheapest
method is "Aromatic" Tablets...
Remain effective for WEEKS, not
minutes... Do not contaminate
food. Ideal for Factory, Office,
Hospital, Hotel, Toilet, etc.
3 doz. 38/- 6 doz. 74/- 12 doz. 142/-

AROMATIC DISINFECTANT BLOCK CO. LTD.

9. AUGUSTUS ROAD, LONDON, S.W.19 Tel. Putney 5181

Helmsman

TWIN TYPE STEEL CLOTHES LOCKERS

Patent No. 699842

Each Twin Locker Unit provides separate accommodation for the clothing and personal belongings of two persons. Fitted with a modern streamlined SLIDEK Handle with 3-Point Latching, lockable with padlock, or Traditional 6-lever lock in lieu or in addition if required. Standard size 72in. x 15in. x 12in. deep. Wide choice of colours and other sizes.

LIST PRICE: £41.50 (in nests of 3) per person. (£9.10.0 per Twin Locker), 6-lever locks.

£5.2.6 (in nests of 3) per person. (£10.5.0 per Twin Locker) Slidex Handle.

OTHER TYPES ALSO AVAILABLE



The "VEDETTE" ALL STEEL DESK

Price from £15.7.6
plus tax £1.14.7 (as
illustrated £24.6.0
plus tax £2.14.8)

Choice of ten designs

Nine drawers for each unit, re-
moveable shelves in cupboard.
Available with two drawer units,
two cupboard units or one pedestal
and plain leg. Size 48" x 24"
x 27" high. Finished stove
enamel, with Warerite top.

Free Delivery London Area



As the makers we offer :
Quantity discounts ; Special
prices for complete installations ; Normal business credit
terms ; Prompt delivery ;
Choice of colours.

W.B.BAWN
COMPANY LIMITED

Byron Works, Blackhorse Lane
E.17
★ Mr. Quin at Larkswood 4411 will
answer your enquiries.

QUALITY AT THE RIGHT PRICE

BUSINESS

Three-in-one pegboard gave everyone full pay details, simplified accounting, cost little to install

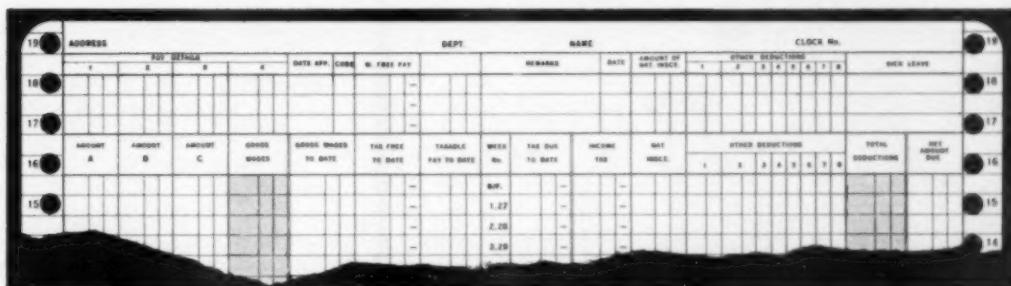


Figure 1. Combined wage/tax record card

New Wage System Stopped Employee Grumbles

By GEORGE HAMILTON

UNTIL about one year ago, City Ltd., a London publishing company with some 250 employees, used a straightforward ledger system for their payroll accounting. Each employee had a tax card and a sheet in the pay ledger, from which weekly pay packets were made up.

The system was more or less satisfactory from the point of view of work. But every week quite a large number of pay queries had to be sorted out. For the big disadvantage was that no one knew just how their net wages had been arrived at without referring back to the pay clerk.

In addition, the ledgers themselves were no longer adequate. They were

originally designed for a much smaller, more personal business, and with expansion, some confusion had crept in. It became apparent that a new set-up was needed, and that these were the requirements:

- 1—**A non-elaborate system**—entailing no increase in the pay staff and no extra demands on the abilities of the pay clerk.
- 2—**A cheap system.** There would be no point in installing costly machinery, just for the sake of it.
- 3—**A flexible system.** Periodical staff movements must not upset its working efficiency.
- 4—**Individual pay slips.** Each em-

ployee must know how his cash has been calculated.

Obviously, these specifications called for some sort of 'three-in-one' pegboard system. City Ltd. finally chose one that had only just come on the market—the *Payscribe*. This is a very simplified version of the usual pegboard apparatus. There is a plain board, about a yard square, with a laminated plastic top, adorned only by two small chromium 'pegs' spaced about a foot apart in the centre. That is all the equipment the system involves; special stationery sees to the rest.

First, there is a combined wage and tax record card (figure 1) for each

Figure 2. Combined payslips/payroll sheet. When folded along central perforation, entries register back-to-back

employee. Of course, the company still have to keep tax cards as well, but these are now only filled in once a year from record card summaries, instead of week-by-week as hitherto.

Second, there is a combined pay-slip/payroll sheet (figure 2) which is perforated as shown in the illustration. When this has been folded double with an interleaved carbon paper, payroll entries appear *on the back* of corresponding sections of the pay-slip sheet.

The actual columnization of these forms is standard: gross wages, wages to date, tax free to date, taxable pay to date, income tax, national insurance, other deductions, total deductions and net amount due. But there is something extra: the column headed 'Week No.' contains a series of punched holes which correspond to the printed tax week numbers. Each hole actually represents two tax weeks, one in each half of the financial year. Thus, the holes are numbered 1/27, 2/28, 3/29 and so on. To simplify the printing, white stationery caters for even-numbered weeks and yellow for odd.

To prepare payroll, payslips and record cards in one operation, the folded payroll/payslip sheet is placed

on the board so that the two pegs slip into the pair of holes corresponding to the tax week in question. No other clamping is required; all the forms now register automatically.

● Next, a record card is taken out of its filing case. It also has two rows of holes punched down the side, but these are numbered 1-19, and correspond to the line numbers which appear on the far right of the payroll (see figure 2).

● If there are no entries yet on that particular paysheet, the clerk places the record card over the pegs at hole number one. This ensures that, however many entries are already on the record card, the new entry registers on line one of the payroll. If the payroll contains previous entries, the clerk looks at the right-hand margin to find the next free line number, and 'pegs' in accordingly.

Payroll Severed

● Each payroll/payslip sheet has room for 19 entries. When it has been completed, columns are totalled for cross-checking. The payroll is then severed from the sheet of payslips by means of the central perforation. It has been designed so that a

suitable margin is left at the top for binding in standard single-post binders, and the necessary holes are pre-punched. The payroll can therefore be filed easily and safely.

● The sheet of payslips, with a copy of all payroll details on the back, is now folded into eight. This allows individual slips to be torn off along the perforations, ready folded for insertion into pay packets. The folding operation leaves the employee's name uppermost, so there is little danger of embarrassing mistakes.

The new system does not save the company time; it still takes the pay clerk most of the working week to cope with payroll and wage packets. But whereas the old method was causing confusion, the new one provides clear, intelligible records within the same overall time. The fact that there is a total after every 19 entries means that far fewer mistakes pass unnoticed, and that fault-finding is much easier when they do occur.

Queries Nil

Since the system was installed, pay queries from members of the staff have dropped to almost nil. This is the best tribute to a system that, for little extra expense and effort, provides employees with a complete tax, wage and insurance statement.

A minor snag (common to all multiple writing systems) is that care is needed when filling in details on the record card to ensure that two good copies come through on the payroll and payslip sheet.

Another point is that every employee's name has to be written every week on the payroll. This does take up a certain amount of time; but with further reorganization, the job may be delegated to a junior, so that the names are written out in advance.

All in all, the company feel that these disadvantages are very minor in comparison to the system's benefits, especially when cost is considered. The total cost of pegboard, binders, record cards for all employees and a year's supply of special stationery came to slightly under £40. Yearly replacements of stationery will not exceed £20 at present prices.

IT'S HERE —
THE SEMI-AUTOMATIC COFFEE SERVICE
that CUTS YOUR CANTEEN SUBSIDY!



These amazing semi automatic vending machines are sited in many of Britain's largest organisations.

They eliminate fixed breaks, improve staff relations and cut the subsidy.

- 500 cups of coffee, at one filling.
- A freshly made cup of coffee every time and flavoured to the individual's personal taste.
- Continuous day and night service.
- Full warranty.

Our representative will gladly call to discuss your particular Coffee Service requirements.



COOLERS & VENDERS
 (Dept. B) LTD.
 35 BERKELEY SQUARE, LONDON, W1
 HYDe Park 9251

HOT TEAS!

from
 the
 M.C.
 Trolley

ONE
 OF
 MANY
 BY

JAMES
FARQUHARSON & SONS LTD.
PARK PARADE LONDON N.W.10



**PARK YOUR CYCLES
 THE ODONI WAY**

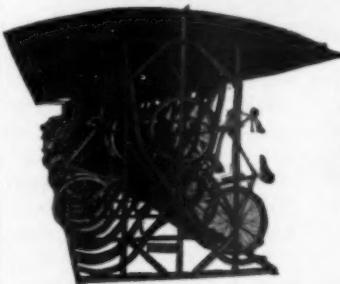
(REGD. TRADE MARK)

With Odoni Patent "All-Steel"

BICYCLE STANDS

Types to suit all possible requirements

Single or Double-Sided. Horizontal or Semi-Vertical
 For Indoor and Outdoor use.



TYPE 10
 DOUBLE SIDED
 SEMI-VERTICAL
 OUTDOOR
 STAND, BUILT
 WITH CLOSE
 RACK
 ARRANGE-
 MENT (CYCLES
 AT 12'
 CENTRES)

Write for fully illustrated leaflet and price list to
 Sole manufacturers and Patentees.

ALFRED A. ODONI AND CO. LTD.
 SALISBURY HOUSE, LONDON WALL,
 LONDON, E.C.2

Tel. No.: (WORKS: LONDON, N.W.) Tel. Add.:
 NATIONAL 8525/6 Odoni, Ave., London



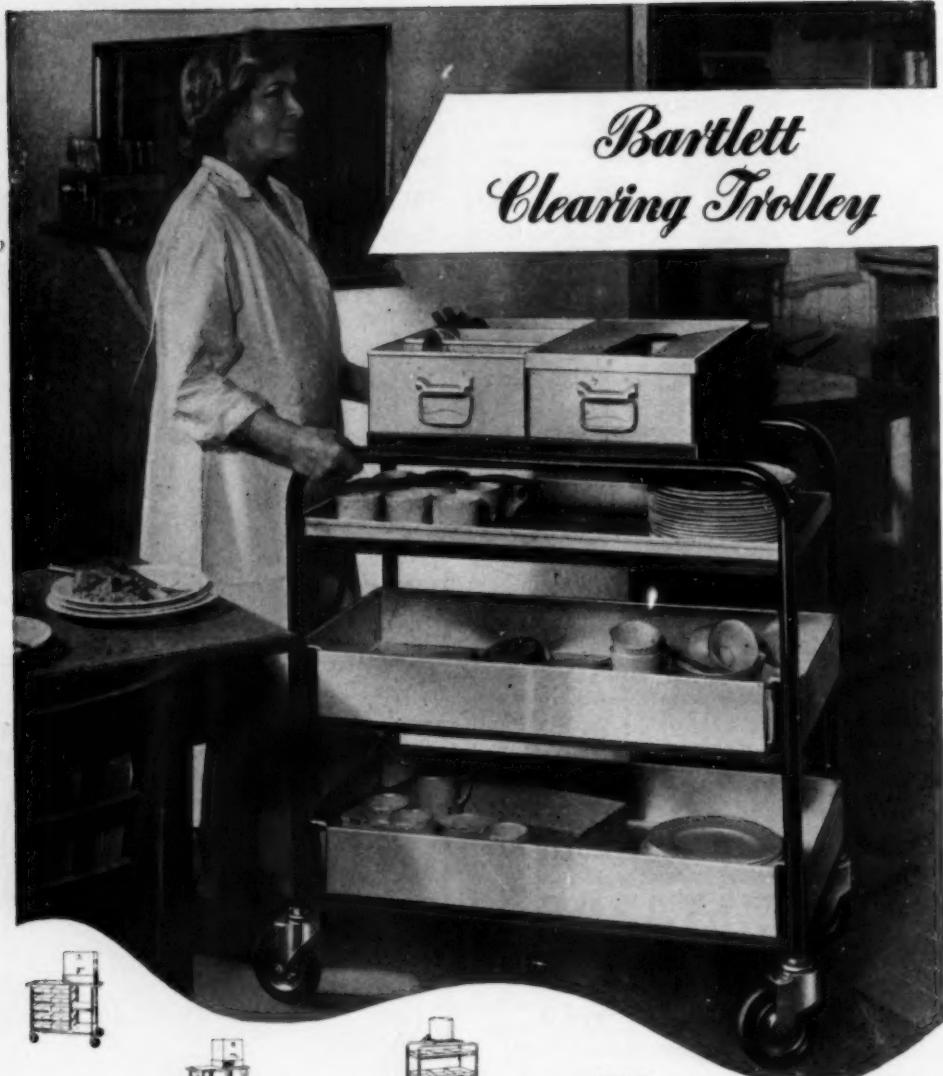
STEEL STORAGE SHELVING

Our technical staff will solve your problems
 Planned layouts without obligation

Shelving built for the job . . .
 Saves valuable storage space

Ask for Leaflet No. 21455
 also for clothing locker leaflet No. 2350

JOSEPH WESTWOOD & CO., LTD.
 NAPIER YARD, WESTFERRY ROAD
 MILLWALL, E.14



*Bartlett
Clearing Trolley*



The Bartlett Cadet Clearing Trolley is but one of their extensive range for Factory, Hotel, Restaurant or Cafeteria. Write for detailed Catalogue.

G.F.E.BARTLETT & SON LTD

BELL STREET, LONDON, N.W. 1. Telephone PADDINGTON 8222
BIRMINGHAM: 12, Whitmore Road. Tel. Victoria 1615 MANCHESTER: 530, Stretford Road. Tel. Trafford Park 0288

S.B.31

How to Get More Work from Dictating Machines

By ALAN PETERS

First make sure that 'correspondence' machines are used fully. Then develop new uses outside the office

THERE are many ways in which a dictating machine can earn its keep. To regard it *only* as a letter-writing aid is to miss opportunities to streamline other paper-work operations.

More and more firms are discovering the all-round advantages of such equipment. Here is an example: the de Havilland Aircraft Co. Ltd.

At present de Havilland have nearly 50 machines of the type which record on expendable plastic belts. Thirty are in use at their head offices at Hatfield; the rest at their Chester factory. The company's aim is to get the maximum value from this equip-

ment *first* by ensuring that machines allocated for orthodox correspondence work are not allowed to collect dust in the offices of people who simply think that it is "a good thing" to have one; and *second* by developing not-so-orthodox applications. This is how it is done:

For Correspondence. Dictating equipment is never forced on unwilling users. If an executive prefers dictating to a typist, he is not expected to change; if a typist dislikes the idea of transcribing from a machine, she can go on working either as a secretary or as an ordinary pool typist.

SEPTEMBER, 1957

Continued on page 158



STOCK USES

1—Branch works use dictating machines to indent for stores. Big advantage is that the smaller units don't need typists.

2—At De Havilland's main stores the equipment saves time and money at the annual stock-taking.

The office machines are controlled by the executive in charge of female office staff. She keeps a record of the number of plastic belts used by each executive or department to which a machine is allocated. If her figures show that the equipment is not being used fully the position is investigated. Moreover, the availability of detailed records makes it easy to switch machines temporarily from one department to another when there are sudden rushes of work.

Any executive who normally does not have access to a machine can draw one from the supervisor's office if he wants to work late or take work home.

For Recruiting. Dictating machines are now carried by de Havilland personnel officers when they make recruiting visits to universities, technical colleges and provincial centres. Every night, plastic belts recording details of the people who have been

WHEN people talk about 'the problem of the older worker' they are usually thinking of the manual worker. They seem to forget that it also affects the professional man."

To the speaker—C. E. R. Sams—this subject is of more than academic interest. He is a professional engineer. He is also 80. Ten years ago he retired—thrown out, he says, because of his age. After a short spell of retirement he decided that he didn't like it. So he took a part-time job with a big electrical engineering firm. Today he is still doing it, and in addition he is director of a small development company.

Some time ago he decided: *If I can do this, why not others?* That is why he set up what might be described as a one-man professional employment agency—except that there are no fees attached to it. In a few years he has helped nearly 300 retired engineers to find either permanent or temporary work.

There are, he says, many ways in which firms can profitably use this 'unwanted' technical know-how at a time when young technicians are scarce. Here are two examples:

1—Reading and abstracting technical publications. The working executive has few opportunities to keep himself up-to-date in this way. Good ideas pass unnoticed because no one has time to read and think about them. An elderly man with the right background does this job well. First he spends a week or two at the firm to find out the sort of information which each technical executive needs, so that individual summaries can be prepared—for sending the same information to everyone wastes time. After that, he works from his own home.

2—Acting as a super telephone operator who handles all calls in-

volving technical enquiries and ensures that they go to the right department. This job is generally done by switchboard girls with little or no engineering knowledge. As a result goodwill and even orders are easily lost.

These examples illustrate what Mr. Sams regards as a most important axiom: *A man over 60 cannot fill a vacancy, he can only fill a 'void'.* By 'void' Mr. Sams means useful work which is not being done at present because no one has thought of it.

The main reason why professional men are expected to retire at 60 or 65, even though they are far from senile, is that holding on to them would block the promotion of younger men. For a man of retiring age to take up a less responsible post in the same firm is hardly an acceptable solution. But in a different firm he can, without losing face, perform simple but useful tasks which have never been done before.

What about the problems of pension schemes and ill health?

All these are swept aside, says Mr. Sams, if the firm pay the man a fixed fee instead of a salary. They know

that he has a pension from his previous employer. Their own responsibilities towards him are practically nil. There is no question of obstructing promotions or upsetting the salary scale.

Mr. Sams began by helping 'old boys' of the Imperial College, London, where he himself was trained in 1894-5. Then he found that other professional engineers—mechanical, electrical and civil—were approaching him. A letter in the *Daily Telegraph* about six years ago brought in hundreds of requests for help. Now he receives up to half-a-dozen requests every week.

There are two reasons why retired men want work. One is money; the other is a desire to do something useful. Either may be put first—and the order of priority helps Mr. Sams to decide the sort of work which would be most suitable.

This is his method of dealing with requests:

- At a personal interview he assesses the candidate's mental and physical capacity.
- He asks the candidate to spend a few weeks thinking about the question: *What do I know better than other men?*
- He meets the candidate again and asks him: *What firm, in your experience, needs that sort of knowledge?*
- Finally he writes to the chairman

A team of six retired engineers investigated the stores system of a big firm with branches at home and overseas. As a result of their recommendations the inventory value was cut by one-third.

Engineers employed profitably scarce — Here's how

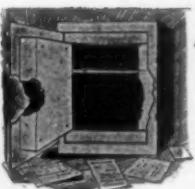
or managing director of the chosen firm, putting forward the candidate's qualifications—and also his ideas concerning the sort of work which he might do for them.

For the candidate to write to the firm himself is generally a waste of time. Nor is it advisable to write to personnel officers—they are inclined to treat applications of this sort as a potential complication to their own duties. But in nine out of ten cases a letter to the chairman or managing director gets a favourable response, provided it puts forward constructive ideas on filling a 'void'.

Big Savings

Some of Mr. Sams' placings have produced excellent results. In one case a team of six retired engineers were chosen to make an objective study of the stores system of a big firm with branches at home and overseas. Three of them stayed in Britain; three were sent abroad. For two years they investigated, analysed and compared notes, doing what was in effect a full-scale management consultancy job. Then they made their report. As a result of the standardization which they recommended, the value of the inventory was cut by one-third.

But this is an exception. Generally it is the less spectacular placings which prove Mr. Sams' case—and reveal ways in which many firms might be able to help themselves.



YOUR RESPONSIBILITY?

YES! IF YOU DON'T INSIST ON

LLEWELLIN'S Watchmen's clocks

FOR POSITIVE, PRINTED PROOF THAT
YOUR PREMISES ARE GUARDED ALL NIGHT

The ultimate responsibility for security precautions *must* rest with top management—and this responsibility can best be discharged by the Llewellyn system.

By means of Key-boxes sited at strategic points, all of which the night-watchman must visit in order to actuate the clock's mechanism, Llewellyn's clocks provide a printed record of the time and regularity of the patrols in your premises—all night—every night—the only sure method of preventing loss by fire or burglary.

Write today for an estimate on your premises.

LLEWELLIN'S MACHINE CO LTD

KINGS SQUARE
BRISTOL

Telephone 20891 and 20875.



MAY WE BRING TO YOUR NOTICE



Our Latest Inter-changeable Notice Boards Made with Solid Natural Grained Polished Oak frames, to any size or style. Fitted with felt-covered slotted back board to hold the moulded flanged plastic characters in perfect alignment and to allow for speedy interchange of characters.

Letters available in 1" or $\frac{1}{2}$ " size, various colours. Boards fitted Easels for standing, brackets for hanging, for interior or exterior use.

Invaluable for NOTICES, PROGRESS CHARTS MENUS, SALES BOARDS, FORTHCOMING EVENTS, STAFF VACANCIES, ETC.

ENGRAVED PERSPEX NAMEPLATES for door plates, notices, made to any wording, any colour schemes.

Send for illustrated brochure from

HILL BROS. (SERVICE) LTD.
ACTON WORKS, BEACONSFIELD ROAD
ACTON GREEN LONDON, W.4
Tel. CHIswick 2235-2236

A Convenience to your Staff Profit for the Welfare Fund!

On the insertion of three pennies this Machine will deliver a tube of Aspirin Tablets, especially packed for us by a famous manufacturer. Shows a profit of over 22% on sales.



IMMEDIATE DELIVERY
12 Months Guarantee

Full particulars from :

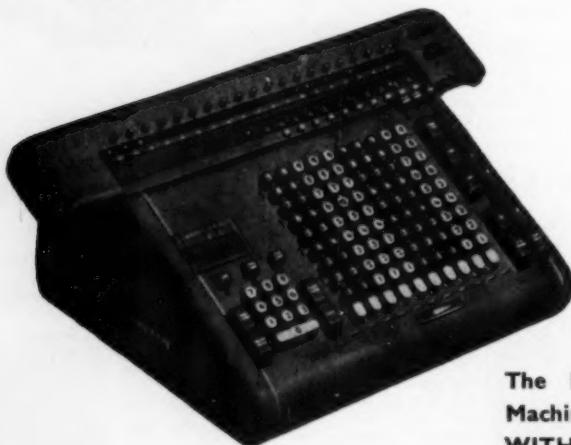
THE SIMPLAMATIC MACHINE Co. Ltd.
40 Sloane Street, London, S.W.1.
Tel.: SLOane 7629

*- a head
for figures?*

Sure — but only with my Friden.

Any figure work is child's play with Friden. I'm right first time — every time — and I'm not a skilled operator!

Our figures are always ahead with Friden.



Friden fully automatic Calculators

The Friden Fully Automatic Calculating Machine performs more steps in figure work **WITHOUT OPERATOR DECISION** than any other calculating machine ever developed.

Find out more about FRIDEN — Write to

B U L M E R S

B U S I N E S S M A C H I N E S

BULMERS (CALCULATORS) LTD . EMPIRE HOUSE . ST. MARTINS-LE-GRAND . LONDON . E.C.1 . MONARCH 9791

BUSINESS Equipment Survey

NEW AIDS TO GREATER OUTPUT AND LOWER COSTS

FOR YOUR OFFICE

Miniature Letter Scale

A USEFUL gadget for the secretary who copes with last-minute mail is the pocket-size *Weighlet*. This miniature letter scale registers from



Saves expensive guesses

½ oz. to 4 oz. in quarter-ounces, and may thus save an expensive guess when airmail letter weights are in question. A spring clip at the bottom of the scale grips letters firmly, and a hook at the top may be held between the fingers or placed over a convenient nail in the wall.

Low-priced, the device comes complete with a snap-fastened leather case measuring 2in. by 3in.

George Salter and Co. Ltd.,
West Bromwich, Staffs.

Cycle Billing System

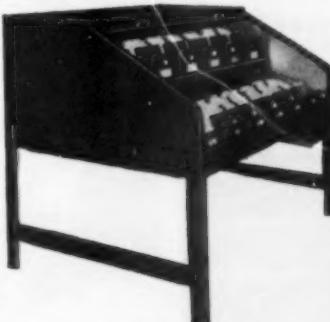
DESIGNED for the business with a large number of credit accounts, *Twinklock* cycle billing system ensures that the work of issuing customers' statements is spread evenly over the month. Basis of the system, as its name implies, is division of accounts into blocks, statements being despatched in rotation throughout the month. It is thus possible to avoid entirely the bottleneck which occurs when all statements are sent out at month's end.

A personal history card is made out for each customer and placed in

the cycle billing tray, together with a ledger card. All credit business with the customer is recorded on signed dockets which are filed alongside the ledger and personal history cards.

When customers' statements are sent out, sales dockets are listed, checked and microfilmed. The total is entered on the statement which is sent to the customer with sales dockets attached. There are two advantages to this system: First, the customer has the opportunity of checking the dockets which itemize each transaction in detail; second, use of microfilm prevents the accumulation of bulky records in the files.

Cycle billing trays are made to take cards up to 8in. wide, and each provides 15½in. of filing space. Personal record cards are punched with a hole which is engaged by a rod at the bottom of the tray. This keeps the cards in strict order and ensures that none slips down or gets lost. Fitted with anti-scratch rubber feet, the trays have metal dividing plates of two different heights. These slip into slots in the tray base to make the V-shaped opening necessary while posting is being done. Plates and cards have special peephole slots so that



For credit accounting

the operator can make sure no sales dockets are accidentally left in the file.

The cycle billing cabinet houses 12 current and six 'dead' trays, arranged in tiers. The top tier can be pulled forward for easy access. Constructed entirely of metal, it is fitted with roller shutter lid and lock. Overall size: 3ft. 10in. deep by 5ft. wide by 3ft. 11in. high.

Percy Jones (Twinklock) Ltd.,
37 Chancery Lane, London W.C.2

Dictation Made Easy

REDESIGNED and re-christened, *Dimafon* dictating equipment is now known as *Assmann*. Two units



Uses magnetic discs

are available: the *Universal* for recording and transcription, and the *Voscriber* for transcription only.

Dictation is recorded on double-sided grooved magnetic discs. These are made in two sizes, both designed for easy mailing—the smaller in an envelope, the larger rolled into a cardboard tube. The lightweight hand microphone has a full set of controls, including an index marker to indicate the ends of letters. Corrections are made by overspeaking.

A built-in control automatically regulates the volume of the recorded voice. Its effect is to cut out fluctuations caused by variation in tone or failure to speak directly into the microphone. This feature is

*Equipment included in this survey is selected for its news value alone. Manufacturers are invited to submit details of new and interesting products for consideration. An original photograph should accompany each item submitted.

BUSINESS Equipment Survey

especially useful to the typist when transcribing conference recordings, since it saves continual volume adjustments which would otherwise be necessary owing to the varying distance of the speakers from the microphone.

Both sides of telephone conversations can be recorded on *Assmann* equipment.

*Multi-Recording Ltd.,
27 Craven Street, London W.C.2*

Acoustic Phone Booth

A QUIET zone for telephone users is provided by the newest wall-type *Acousti-Booth*. This, the manufacturers claim, is even more successful than its predecessors in giving effective sound insulation.

Made in grey hammer finished steel and lined with acoustic material, the



Cuts down noise

booth is illuminated by diffused lighting. A shelf provides a writing surface.

Keyhole slots on either side and at the back provide a means of fixing to the wall. The positioning of these, combined with the angular shape of the booths, enables the purchaser to instal them in various positions, either singly or in groups, with economy of space.

Acousti-Booths are 32in. high, 35½in. wide and 28in. deep.

Burgess Products Co. Ltd., Acoustical Division, Brookfield Road, Hinckley, Leics.

Executive Desk

UP-TO-DATE, but not 'modernistic' in appearance, the *C.120* desk is designed with smooth, straight lines. Conventional drawer handles are replaced by louvred hand grips,



Easy to manoeuvre

the drawers being opened by inserting the fingers into a groove between the lower edge of one drawer and the top of the next.

In the top drawer of the right-hand pedestal there is an accessories tray; the large bottom drawer on the same side is equipped for suspended filing. All four drawers in the left-hand pedestal are fastened by an automatic locking device situated in the top drawer.

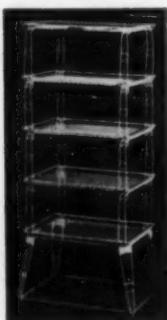
Those who have occasion to move their furniture about will appreciate the way this desk is made—the box top can be detached from the pedestals, thus avoiding awkward manoeuvring. The *C.120* is available in oak, mahogany or walnut, with top inlaid with hide of any colour or *Formica*. There are two sizes: 5ft. 6in. by 3ft. 3in. or 5ft. by 3ft. Height in each in each case is 2ft. 6in.

A matching writing table and side table are available.

*Carson Bros. (Productions) Ltd.,
3-4 Charlotte Road, London E.C.2*

Versatile Stacking Trays

COMPANION to the well-known *Beanstalk* is the *Flattie*, in which shallow wire trays are used instead of deep baskets. As in the *Beanstalk*,



Can be used
in many
different ways

the *Flattie*'s trays are designed to be stacked one upon the other, as high as the user wishes. The complete stack may be hung from the wall, placed on a special stand or, with the addition of detachable wheels mounted on crossbars, used as a trolley.

Suggested uses of the *Flattie* are as an auxiliary desk-side table, a mobile dictation machine stand, or as a paper-holder standing alongside a duplicator. By removing or adding trays or wheels, it can be made to fulfil a number of different functions as and when needed. The price is modest.

Beanstalk Shelving Ltd., Industrial Estate, Chichester, Sussex

Desk-top Index

UP to 500 cards can be accommodated in the *Spin-It* rotary index cabinet, yet it occupies a space of less than 6in. by 4in. Cards 3½in. by 1½in. in size are held on slots on two wheels in the centre of the file. Large knobs placed on either side of the outside



Takes 500 cards

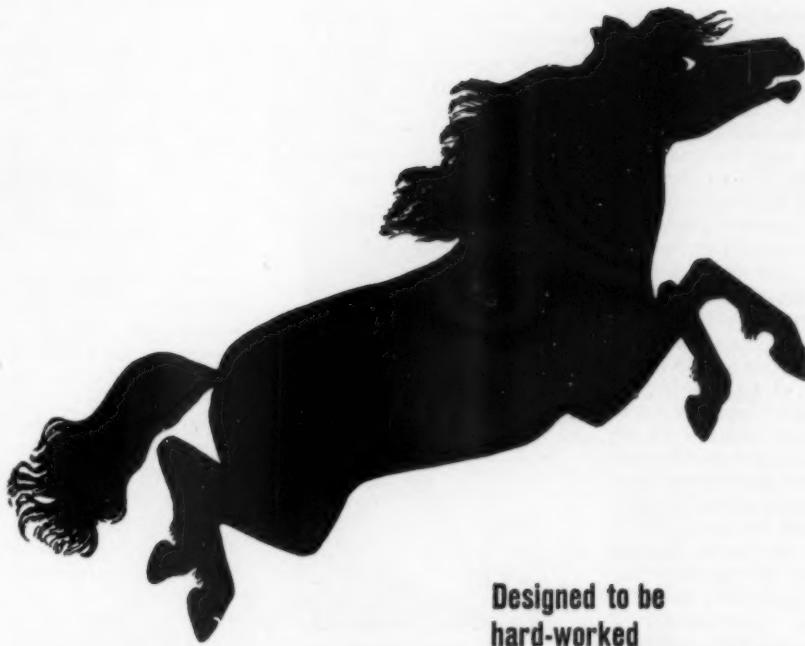
casing enable the user to spin the file freely, locating a card in a matter of moments.

An alphabetical index is included with the file, which is made of steel with a mottled grey finish. A sliding cover keeps out dust.

*Exactus Business Machines,
2-3 Victoria Chambers,
Luke Street, London E.C.2*

Radio Paging System

THE problem of keeping in touch with executives who are constantly moving around in a large building is solved by the *Page Boy* radio paging system. Each executive carries a small radio receiver in his breast pocket, to which two kinds of



**Designed to be
hard-worked
and trouble-free**

Olivetti are famous all over the world for typewriters of outstandingly good design. But, to Olivetti, good design is not by any means just a matter of good looks - for the same Olivetti outlook penetrates to the innermost, smallest, working part of every machine. It is this close attention to every detail of engineering precision that makes the Lexikon 80 good to look at, good to work with, and good to last through years and years of the hardest usage with the very minimum of attention. That to Olivetti, is what good design must always mean.



***Olivetti*
*Lexikon***

Made in Great Britain by
British Olivetti Ltd.

10 Berkeley Square, London, W. 1.

Sales Branches:

London - 32/34 Worship Street, E. C. 2.

Birmingham - 14 Waterloo St., Birmingham 2

Glasgow - 115/207 Summerlee Street, E. 3.

Authorised dealers throughout the country

BUSINESS Equipment Survey

calling signal and direct speech can be broadcast from a central transmitter. The system is designed so that signals can be picked up in any part of the building; and no executive will get a signal intended for another.

Broadcasting equipment consists of a transmitter and a number of small 'radiators' which relay the signals. Neither of these is larger than a small portable wireless set. Use of these radiators does away with the necessity for installing a loop of heavy cable round the outside of the building, and this has enabled the manufacturers to keep the cost down. Effective range of each radiator is about 80 yards in all directions. Exact range depends on structure of the building. All connections are made by ordinary 2-core lead-covered power cable—another cost-cutting factor.

The transmitter can serve 144 receivers, and is very easy to operate. Controls consist of two dials, one marked with 12 numbers, the other with 12 letters. Permutations of these produce 144 code numbers,

which represent the call numbers of executives carrying receivers.

All the operator does is turn the pointers to the appropriate sign (say, D4) and snap on the transmitting switch. The executive hears either a high-pitched buzz, meaning "please go to the nearest telephone," or an



Personal receiver

interrupted buzz, meaning "I have a message for you."

When he receives the message signal, the executive takes the receiver from his pocket, and holds it to his ear. Pressure on a small button enables him to hear the message which the operator delivers through a microphone attached to the transmitter.

Receivers are powered by small batteries (life about 30 hours) which are recharged in a special bay provided for the purpose. The batteries therefore need never be replaced, since they can be recharged overnight. Maintenance required should be minimal, as only one valve is used in the transmitter and one in each radiator, while the receivers are transistor-operated.

Page Boy equipment is available for purchase or rental.

Cotterill-Ginn Ltd., 13 Suffolk Street, Pall Mall, London W.1

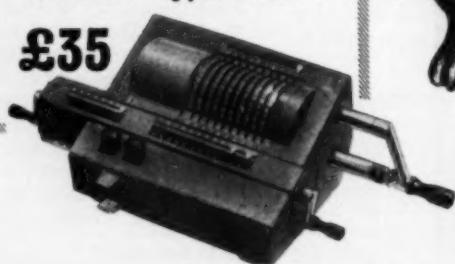
Flat-bed Duplicator

IN offices where there is little duplicating work, a low-priced portable model may be a sound investment. The *Renaplan* flat-bed spirit duplicator is bolted into its own carrying

HERE'S YOUR LUCKY NUMBER!

13
A 13-digit Calculator
for the price of a
Portable Typewriter!

£35



OFFICE EQUIPMENT DISTRIBUTORS (B.T.L.) LIMITED

(A Subsidiary of British Typewriters Ltd.)



Head Office: Empire Works, Birmingham Road, West Bromwich
Tel. West Bromwich 2331
London Office and Showrooms: Empire House, 34-35 High Holborn, W.C.1
Tel. Holborn 0936



The ODHNER 207 Calculator costs £35. Designed for small offices and for mass use in large ones, its price is the result of ruthless simplification. It is a machine so direct and simple that a child can work it.

The ODHNER 207 solves the cost problem that looms so large wherever Calculators are needed but not used. Sold and serviced throughout Great Britain for the last forty years, it has a long tradition of reliability.

Write to us for a demonstration. The machine will either prove its point to you or it won't. But if it does, then we really have something.

ORIGINAL ODHNER

207
CALCULATOR

New Postage Rates are no trouble to me!



"With the flick of the finger I can select *any* value of postage rate in *one* second. My 'FRANKOPOST' Multi-Value postal franking machine prints any postage rate from 1d. upwards (99/11½d. if you go that high or less if you wish), *plus* a nice little advertisement for us in the top left hand corner. And that's not all—my FRANKOPOST is just as good for 10 letters a day as it is for 100! We've proved it saves us money—to say nothing of time and temper. No stamps to lick or lose, no post book to keep, our postage account always up to date—and no ready cash hanging around the office. Letters—Airmail—parcels etc. FRANKOPOST deals with them all! What more can I say except I wouldn't be without our FRANKOPOST!"

INSTANT SELECTION. POSTAGE RANGE 1d.-99/11½d.
SIMPLICITY — FOOLPROOF

Frankopost

the franking machine for all sizes of office

Other U.P.F. Machines you should know about

FOLDOPOST letter folder	DIRECTOR cheque signer	TOTOMETER counter and imprinter
-----------------------------------	----------------------------------	---

UNIVERSAL POSTAL FRANKERS LTD.

Victory House, 99/101 Regent St., London, W.1 Tel: Regent 2240

Please send me details of:

FRANKOPOST FOLDOPOST DIRECTOR TOTOMETER

NAME _____

ADDRESS _____

PS

UP GOES LIFTING EFFICIENCY

Wherever you need to speed up movements between floors, you need a Barron & Shepherd Goods Elevator. Quickly, time after time without costly servicing, it will lift half a ton or more between two floor levels. Simple to operate and maintain, each elevator is built to suit the user's individual needs.

DOWN COMES LIFTING COSTS

The exceptionally low first cost is only a start with the Goods Elevator. Installation is simple and inexpensive because the unit is completely self-contained and needs no attachment to your existing building. The Goods Elevator is very compact and takes up the minimum of floor space. Its design and operation are so simple, that's agreed by users in all branches of industry.



*Write today for full details
and specifications of the*

NEW GOODS ELEVATOR



Designers and Sole Manufacturers

BARRON & SHEPHERD LTD.

16 Blackfriars Lane, London E.C.4. Phone CITY 5385
Telegraphic address: Bargram London



Name _____

Address _____

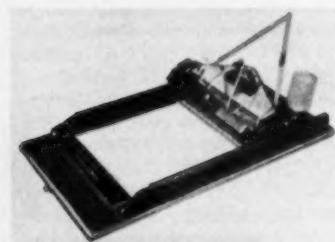
Telephone No. _____

BUSINESS Equipment Survey

case and can be set up on any table in a matter of moments.

Each master—handwritten, typed or drawn—will produce from 120 to 180 copies, depending on the paper used for reproduction. The machine can cope with any smooth paper from airmail to thin card. Several colours can be reproduced in a single run. Alterations can be made to the master by masking any portion to be omitted or by fixing a small piece of master paper with fresh material on it over superseded parts.

Operation is simple. The roller is damped direct from a polythene bot-



Portable duplicator

tle attached to the duplicator. Then the master copy is fastened to the bed of the machine. Copies are taken off by hand-feeding blank sheets one by one and moving a horizontal slide to and fro.

The machine comes in two sizes: brief and foolscap.

E. G. Solomon, 44 Worship Street, London E.C.2

Security Desk

CONFIDENTIAL papers or small valuables can be concealed within the *Dual Top* desk by the operation of a hidden lever. Designed for executive use, the desk provides a working surface 5ft. 3in. by 3ft. 3in. and has, as its name implies, a double top.

The lower top is normally used for work. When the lever is pressed this top moves down into the body of the desk and is replaced by a rigid shutter which locks into place and is designed in such a way as to give no indication that it is a 'false' top.

The desk has two pedestals, each containing three drawers; alterna-



Conceals 'secret' papers

tively, deep filing drawers can be supplied if required. It is made of oak, walnut or mahogany.

C. W. Cave & Co. Ltd., 59 Holborn Viaduct, London E.C.1

Short Cut to Filing

MANY secretaries have difficulty in finding time for filing. A new dual-purpose desk-top letter tray helps to speed up this chore. Similar in appearance to the usual five-tier letter tray, its difference lies in the fact that four of the trays are detachable from their framework.

The curved edge by which the trays are held on the frame can be hung over the edge of a filing cabinet drawer. Letters can therefore be

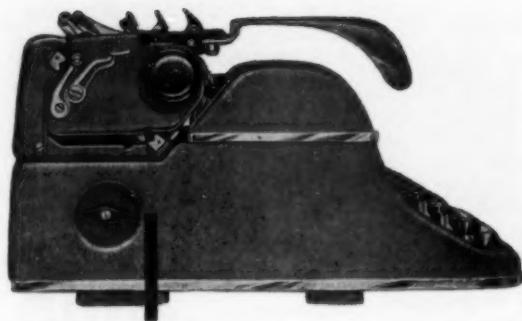
The right machine for the job

This Heavy Duty, portable machine is ideal for cleaning Buses, Rail coaches and the interior of aircraft. Here is ample power combined with mobility in B.V.C. model T23 one of the B.V.C. Industrial range.

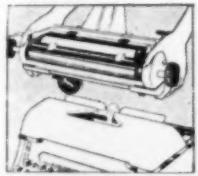
B.V.C. INDUSTRIAL
VACUUM
CLEANERS
BRITISH VACUUM CLEANER

The British Vacuum Cleaner & Engineering Co. Ltd.
(Dept. 1), Goblin Works, Leatherhead, Surrey.

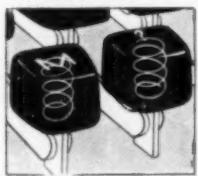




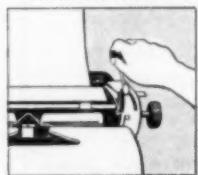
Profile of Perfection



INTERCHANGEABLE CARRIAGES



SPRING ACTION KEYS



AUTOMATIC PAPER FEED

You and your secretary will agree that the Olympia SG1 is the ideal standard office typewriter.

She, because of its wonderfully light touch and time and effort saving devices, you, because you are investing in a machine built for lasting efficiency with minimum maintenance cost.



The Olympia SG1 is a product of one of the largest typewriter manufacturers in the world. Your dealer stocks it.

OLYMPIA BUSINESS MACHINES CO., LTD.

71 New Oxford Street, W.C.1.

Tel: TEMple Bar 9656

2527/58



How many hours a day is the typewriter standing idle because a secretary is taking dictation, or making memos of 'phone messages or conference minutes?

The undeniable fact is that if your office has a typewriter it needs a dictating machine.

A Stenorette 'S' dictating machine keeps those typewriters active. It eases everyone's working day, boosts output, can even help with jobs like stock-taking.

And if you never used it for anything else, its ability to record both sides of a telephone call would repay its cost over and over again in the course of a year.

The Stenorette 'S'

costs only 52 Gns.

complete—no more

than a typewriter . . .

but it makes the

typewriter twice as

valuable

GRUNDIG

Stenorette 'S'
DICTATING MACHINE



- * 25 minutes dictation
- * Automatic backspace and erase
- * Facilities for telephone and conference recording
- * Easy operation

GRUNDIG (GREAT BRITAIN) LTD.
(Gas Purification & Chemical Co. Ltd.)
39/41 New Oxford Street,
London, W.C.1.

Contact your local office equipment specialist, or fill in this coupon, and post it to us — We'll do the rest.

NAME _____

ADDRESS _____

DEPT. BU

G 18

BUSINESS Equipment Survey



Removable filing trays

sorted on the desk during the day's work, and moved over to the cabinet in the same trays for filing. Hooked over the edge of the drawers, the trays hold the material conveniently close at hand, cutting time and effort to a minimum.

*Mail Merchants Ltd.,
3 Gordon Street, Luton, Beds.*

Anti-offset Device

OFFSET from hard-surface papers is completely eliminated when the *Electro-Spray* attachment is used on

Roneo ink duplicators. Interleaving is unnecessary.

The spray operates as an independent unit, and can be switched on or off as required. Synchronized with the operation of the duplicator, the attachment sprays fine powder over each copy as it leaves the machine. At the end of the run the copies are taken away and left to dry.

Electro-Spray may be purchased separately for attachment to *Roneo* duplicators already in use.

*Roneo Ltd., 17 Southampton Row,
London W.C.1*

Continuous Desking

CLEVER use of the natural grain of the wood used in *Gold Seal Modular* desking makes this furniture exceptionally attractive to the eye. Desk pedestals, tops, bookcases and cupboards are included in the range, which has been designed to match the manufacturer's executive and standard grades of office furniture.

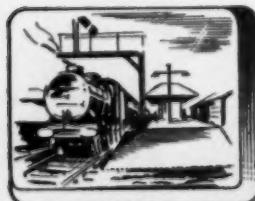
Versatile furniture

Unit furniture of this type is being increasingly used in offices because of its versatility. The pieces can be arranged in any permutation and combination which ingenuity can devise, and as they can be purchased individually the system is economical.

All pedestals and cupboard units in the *Modular* range are adjustable in height, and there are alternative positions for the pedestals.

The furniture is at present made of oak, but mahogany finishes will shortly become available.

Moss Partners (London) Ltd., Lea Valley Road, Ponders End, Middx.

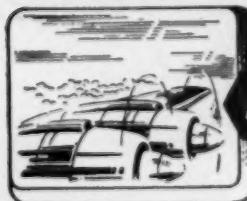


Going abroad on business?

by land



by sea



by air

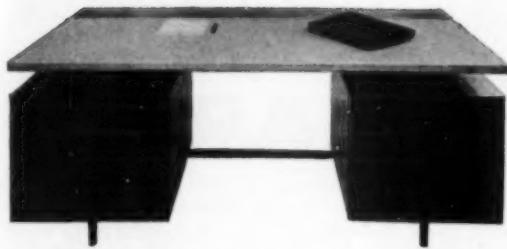
by LEP TRAVEL

LeP

41-43, Ludgate Hill, E.C.4. Tel: CITY 5011
Grosvenor House, Park Lane, W.1. . . . Tel: Gro. 6688

And at:—BIRMINGHAM, BRADFORD, BRISTOL, I. HULL, MANCHESTER, SHEFFIELD, I. GLASGOW C.I., and DUBLIN.

HP 5063



hille

Four desks from the range of Hille office furniture.

Modern boardroom tables and chairs
can also be seen at the Mayfair and
Birmingham Showrooms.



our Contract Division are
happy to advise on, and supply
furnishing for modern interiors.



desk prices range from £22.1.6 to £112.15.0



HILLE OF LONDON LTD 39-40 ALBEMARLE STREET LONDON W1 HYD 9576
& 24 ALBERT STREET BIRMINGHAM 4 MIDLAND 7378/9.

TO INDUSTRIALISTS
**EXPANDING or
NEW BUSINESSES**

NORTH NORFOLK WELCOMES ENQUIRIES

(CROMER Urban, SHERINGHAM Urban
and ERPINGHAM Rural Districts)

★

**SITES (All Services) AVAILABLE
LABOUR (Male and Female) AVAILABLE
TRANSPORT FACILITIES AVAILABLE**

★

*Full Co-operation from
Local Authorities*

*Develop your Industry in
Healthy Surroundings*

★

Enquiries in first instance to Clerk,
Council Offices, Cromer.

BLICK

WATCHMAN'S CLOCK

Special Features

- 8-day Clock Movement and Record Chart
- Unlimited Stations
- Instructions for making patrols in the way recommended by Scotland Yard
- Special Record Book which enables you to see at a glance whether your instructions have been carried out.

Write today for free 12-page booklet describing the unique BLICK system.



BLICK TIME RECORDERS LTD.
96 ALDERSGATE STREET, E.C.1.
MONarch 6256



FIRE ALARMS



... and the Factory Act

We can help you to comply with the Factory Act 1937 by providing equipment for an inexpensive Fire Alarm system suitable for **your** factory. Note the following advantages :—

- Equipment complying with the British Standard Code of Practice "Electrical Fire Alarms".
- Has the approval of your local Factory Inspector.
- Any number of manual or automatic points.
- Alarms available to overcome most noise levels.
- Provides general or restricted alarms as required.
- Can be connected to the local Fire Station.
- Schemes available to suit **your** factory.
- Good deliveries.

Contact your local Electrical Contractor or write to-day for our informative booklet "Are You Protected?".

GENTS' OF LEICESTER FIRE ALARM SYSTEMS

GENT & CO. LTD · FARADAY WORKS · LEICESTER

London Office: 47 Victoria Street, S.W.1.
Birmingham 2: Winchester House, Victoria Square.
Bristol 6: 3a Berkeley Place, Clifton.
Edinburgh 2: 24-30 Rose Street (East), Hanover Street.
Glasgow C.2: 20 Blythswood Street.
Newcastle 1: Tangent House, Leazes Park Road.

BUSINESS Equipment Survey

INDUSTRIAL EQUIPMENT

Automatic Delivery

SPACE and time are saved by the *Flowfeed* automatic system of delivering parts, for assembly or processing, to the operator at his bench.

The parts, in a corrugated-steel box pallet, are brought to a special hopper stand by a standard fork truck. The pallet is then placed in position on the top section of the hopper stand. The sliding door mechanism fitted to the front end of the pallet opens, and a flow of parts is released onto the hopper tray at a convenient working level.

Thus the operator can take a component, carry out an operation on it, and despatch it through a chute in the hopper tray, into another box pallet in the lower half of the stand. Even during the changeover of pallets the operator can continue his work as the hopper carries a reservoir of parts at all times.

The units are transportable and



For inside use, too

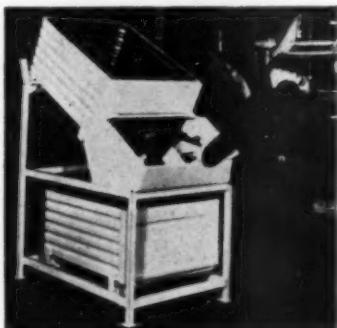
wheelbase of 4ft. 9in. Although it can operate under a 6ft. 3in. ceiling, it has a long forward reach. Discharge height is adequate for lorries and tippers.

Capacity is 10cwt. per scoop.

Special scoops are supplied for a wide variety of materials. Power is from a three-cylinder diesel engine.

Operator comfort and safety have received special attention. The driver's seat is offset so as not to be between moving parts.

F. E. Weatherill Ltd., Tewin Road, Welwyn Garden City, Herts.



Saves space and time

can therefore be moved quickly to suit a change in production planning.

Fisher and Ludlow Ltd., Materials Handling Division, Bordesley, Birmingham 12.

Small Loading Shovel

THE bulk handling of materials inside factories and sheds is often hampered by restricted space. In such cases the *S.I.* mobile shovel may prove a boon.

It is only 4ft. 6in. high, with a

'Simple' Relay

MECHANICAL switches are often unsuitable for counting and detecting operations, either because physical contact with the subject is impracticable or because the speed of registration causes the switch to fail. The usual alternative is a light-sensitive switch, with a beam of light actuating a photo-electric cell.

The *Magistor* switch uses transistors and dispenses with thermionic valves, large photo-electric cells, and high tension power supplies. It is compact and consumes only 16w. Simple printed circuitry makes possible a low price.

The switch counts at speeds up to ten per second, and batching counters can deal with any pre-set amount.

There are two small units—a lamp box and a receiver—connected by

only two wires. Light from the lamp box is directed on to the receiver, where it strikes the photo-transistor. This energizes a transducer, which in turn controls a relay with change-over contacts. The relay operates when the light beam is broken.

Metropolitan-Vickers Electrical Co. Ltd., Trafford Park, Manchester 17.

Rapid Fire Alarm

RADIO-ISOTOPES are used in the *Minerva* fire detection system which is claimed to be quicker than any other. It operates at the first sign of smoke from smouldering material, long before any appreciable heat is generated.

The actuating device is a small ionization chamber whose electrical characteristics alter when subjected to smoke or heat. The electrical changes are used to ring bells and notify fire stations. Warning is so prompt that a fire is caught in its earliest stages, with the minimum damage from heat or water.

In a test the *Minerva* took only 2 min. 10 sec. to give warning of a fire in wood shavings 7ft. from the detecting head. The quickest other method took 3 min. 20 sec.

Minerva Detector Co. Ltd., Lower Mortlake Road, Richmond, Surrey.

Spark Machining

ELECTRIC spark erosion enables work which is often beyond the capabilities of normal machining methods to be carried out with comparative ease (BUSINESS, March 1957, Page 84). Hard and tough materials are worked quickly and accurately without special skill on the operator's part.

The *G.K.N.* spark machine is of simple construction, but the cutting rate is high, the electrode wear low,



Cuts hard metals

BUSINESS Equipment Survey

and the surface finish good. There are three main units: the working head, the electrical supply and the dielectric fluid system. All are contained in a sturdy but attractive cabinet.

The electrical circuit uses no valves. The cutting head is detachable for inspection and is supported at three points in the dielectric fluid tank. Servo drive is from a d.c. motor through a friction reduction unit to an arbor carrying a vee block.

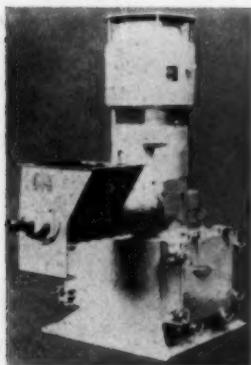
Electrodes are normally of copper but other materials, like brass, may be used. Accuracy is normally to a tolerance of .002in. but with extra care this is reduced to .001in.

An outstanding feature is the ease with which a succession of electrodes can be quickly and accurately set on a given workpiece.

*Rudkin and Riley Ltd.,
Cyprus Road, Aylestone, Leicester.*

Economical Grinding

DISINTEGRATORS are machines for reducing to the required size materials used in the food, paper and



Grinds wet materials

other industries. Often these materials are wet, and because of the danger of clogging the mechanism, they have to be dried first.

A new range of disintegrators handles wet and moist materials with little chance of clogging. Further advantages are (1) less floor-space is required than with other types; (2) vibration is absent; and (3) gravity feed gives high output with a small economical power unit.

A vertical alloy or stainless steel rotor is surrounded by a perforated

steel screen. The size of the perforations vary according to the size of the product required. Material thrown into the machine at the top of the rotor is thrown against the screen with great force. Hammers revolving horizontally help to shatter the material.

George Scott and Son (London) Ltd., Durie Foundry, Leven, Fife.

Special Spray Gun

SPRAYING is often the most convenient way to cover a product with a thin film of another material.



Sprays difficult liquids

But if the material being sprayed is unstable (like certain latex emulsions and suspensions found in the ceramics industry) it will soon clog the gun and make cleaning difficult.

The L510 spray gun overcomes this difficulty. It handles all materials requiring an unobstructed fluid passage and avoids turbulence which might agitate them.

The fluid passage is a straight tube, normally made of stainless steel. Any other machinable material can, however, be substituted, so that the gun can be used with corrosive or abrasive fluids. The unit is suitable for remote control.

*Alfred Bullows and Sons Ltd.,
Long Street, Walsall, Staffs.*

Lightweight Respirator

THE outstanding feature of a new dust respirator is lightness—it weighs only 3oz. The facepiece cushion is made of neoprene, contoured to give accurate fit and maximum comfort. Adjustment is by bending the aluminium plate to shape.

The respirator, known as the *Dustfoe* 66, has extra large exhalation

valves, which reduce breathing resistance to a minimum. The dust filters are treated with an electrostatically-charged resin which improves the filtering efficiency.

The filter holder is of very narrow design in order to minimize the blind spot common with respirators. Filter changing and cleaning are quick and easy.

*Mine Safety Appliances Ltd.,
Queenslie Industrial Estate,
Glasgow.*

Marking Service

UNDER a service recently introduced industrial garments are marked, by a permanent silk screen process, with the customer's name or emblem.

Two types of special ink are used; with P.V.C. garments the ink impregnates the material and becomes part of it. The marking therefore can not peel off, crack, or fade—in fact, the only way to remove it is to cut the piece out. For textiles the pro-



Permanent identification

cess is the same but a different ink is used.

The service is available in a wide range of colours.

*J. E. Lesser & Sons Ltd.,
Green Lane, Hounslow,
Middlesex.*

Multi-Purpose Bolt

MANY design and construction problems are solved by the *Selabolt*, which has a slight cavity in the underside of the head to accommodate a neoprene ring.

The ring has a number of advantages. It eliminates squeaks and rattles, makes a watertight joint, and protects enamel and glass. Where a certain amount of flexibility is re-

Destroy Unwanted Documents . . .
Create Valuable Packing Material

with **The ^{new} Shredway**
Mk. IV

DOCUMENT DESTROYER & PAPER SHREDDING MACHINE

Confidential documents can be completely destroyed
and shredded into unreadable packing material
with this easy-to-use, safe, typewriter-size
machine.



Write to-day for full details to

**STEDWAY
PRODUCTS
LTD.**

387b RAYNERS LANE, PINNER
MIDDLESEX. Tel: Pinner 7477

human nature being what it is . . .

... and man hours being expensive things, a little of the right kind of incentive is accepted as a wise investment for the businessman. National Time Recorders supply this incentive in the shape and form best suited to the size and nature of your Company, recording attendance or job times—or both—faithfully, accurately and rapidly however small or large the staff. With models to suit every purpose it is natural that so many Companies equip themselves with National Time Recorders—who have an area office within easy distance of your works and who are, of course, famous in this business of recording time.

for times sake call in . . .

National TIME RECORDER CO. LTD.
Manufacturers of the most complete range of Time Recorders
LAGOON WORKS, CRAY AVENUE, ST. MARY CRAY, KENT · TEL: ORPINGTON 28741

BUSINESS Equipment Survey

quired, the nut need not be screwed up to maximum tightness, yet the friction of the neoprene, together with its compression, will prevent it from unscrewing.

The neoprene will withstand water, sun, and oil for years, without losing resilience. If appearance is important and the nut accessible, the slot in the head can be omitted—thumb pressure on the head is enough to hold it while the nut is tightened.

*British Screw Co. Ltd.,
Kirkstall Road, Leeds, Yorks.*

Powder for Fire

FIREs in petrol, alcohol, industrial solvents, and other dangerous liquids are brought under control quickly by a new dry powder extinguisher. A knob is struck, a cloud of fine powder shoots out, and the flames are smothered. Even in the hands of an inexperienced operator, the extinguisher will quell a petrol fire 9 sq. ft. in area.

The powder is sealed with dried carbon dioxide under pressure, so



Quells fires in liquids

that it is unaffected by humidity. The extinguisher is only 15½ in. high and weighs 10lb. A pressure gauge shows whether it is charged and ready for action. Re-charging takes only 30 seconds.

Nu-Swift Ltd., Elland, Yorks.

Prints on Bottles

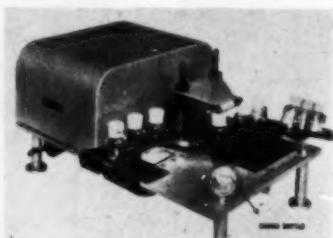
THE tops or undersides of bottles, jars or tins can be imprinted with a number or code at speeds of up to 90 a minute by the *Model C.B.* printing unit. Typical uses are in the

cosmetics, paint and food trades.

Fast-drying ink and a special rubber type are used. The unit takes the articles from the conveyer, indexes them, prints and returns them to the conveyer.

Normally it is supplied for receptacles up to 2in. diameter, 2in. square, or 3in. by 1½in. It can, however, be modified for special sizes. Printing is satisfactory even if the undersides of receptacles are not absolutely flat.

*Mark-o-Print Ltd., Station Path,
Putney Bridge, Fulham S.W.6.*



Containers coded rapidly

Avoid the bottleneck
at your works
entrance



with
MAGNETA
TRADE MARK
SUPER FAST
TIME RECORDING

For full information ring
Ashtead (Surrey) 866 or write :

THE MAGNETA TIME COMPANY LIMITED
GOBLIN WORKS :: LEATHERHEAD :: SURREY
BUSINESS

The ADWEL Adding Listing Machine

Once you've seen and tried the Adwel no other Adding-Listing Machine will be good enough for you. Revolutionary in its flowing, stream-lined appearance, its features include visible, fully-automatic keyboard, easy accessibility and self-adjusting paper feed. World's lowest price. Hand models from 40 gns. Electric 76 gns.



The pride of the office...

Triumph is the pinnacle of typewriter perfection. Accurate, highly efficient and made to last a lifetime. Full supplies are now available.

SUPER MODEL

TRIUMPH



THE MACHINES OF THE AGE!

World service and agents throughout the British Isles
SOLE CONCESSIONARIES

VAN DER VELDE LTD.
PILGRIM STREET, NEWCASTLE-UPON-TYNE.

Telephone 21504

In association with **STRAND OFFICE MACHINES LTD.**,
265 Strand, London WC2. Tel. 7206-7

floor POLLUTION is a costly business



Write



hazards on untreated or wrongly maintained floors can be reduced—staff and visitors alike can be protected by right methods from accidents caused through slippery floors, and at the same time waste is eliminated and the highest standard of cleanliness achieved.

COLUMBUS-DIXON

for

FREE
ADVISORY SERVICE
Dept. C.7.

WEMBLEY, MIDDX. Phone: WEMBLEY 6001
MANUFACTURERS OF ECONOMY MACHINES FOR LOW COST PROPER FLOOR CARE

BUSINESS Equipment Survey

CANTEEN AND WELFARE

Cool Drinks

DURING prolonged spells of hot weather it is difficult for offices and factories to provide soft drinks—



Eye-catching display

or even water—that are really cold. The *Acrokool* dispenser solves the problem.

Capacity of the dispenser is 4½

gallons, yet it measures only 16in. by 16in. by 23½in., so that it is easily mounted on a table or counter. Operation is easy: Gentle upward pressure with a tumbler opens the tap, which closes when the tumbler is withdrawn.

The constantly circulating drink gives an eye-catching and colourful cascade. There is nothing to corrode and maintenance is nil. The refrigerating unit, guaranteed for five years, operates from an ordinary power point. There is no chance of the first few drops being lukewarm—all liquid that passes through the tap is ice-cold. The dispenser is available in a choice of colours.

Crawley Bros. Ltd., 8 South Wharf, Paddington, London W.2.

Liquid Dispenser

FRUIT juices, essences, and sauces are quickly and hygienically pro-



For canteen economy

vided by a new portable dispenser. Its cast-iron base is heavy enough to prevent the unit from being knocked over.

Operation of the hand lever ejects a pre-set amount of fluid. This can effect considerable economy.

The aluminium body is non-corroding and finished in cream stove enamel. Column and lever are chrome-plated. The container, which is airtight, is obtainable for two capacities: 20 and 40 fluid ounces.

Brightwell Dispensers Ltd., Spenser Works, Railway Road, Newhaven, Sussex.

"Forget the ten minutes, Charlie"

... "Nobody minds a good driver like you taking a break whenever he needs one. . . . But who kept you waiting these forty minutes for your load?"

... "Down at Bitsanpieces Ltd. that was—half the stuff not even labelled—put me out for the rest of the day, it did!"

... "Right . . . I'll ring them now and make sure you're not delayed there again!"

... "Thanks, Guv—that's what I call the right way to run a fleet!"

Another of the ways in which drivers are helped—HUMAN RELATIONS IMPROVED
EFFICIENCY INCREASED—AND TRANSPORT COSTS REDUCED... by the

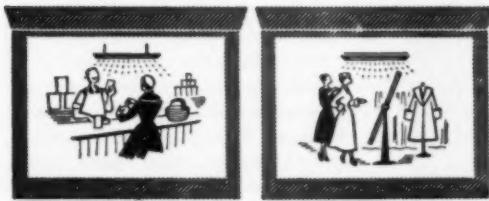
SERVIS RECORDER SYSTEM

Full details of its application
to your particular needs
supplied with zest and
alacrity by . . .

SERVIS RECORDERS LTD., Dept. B, 19 LONDON ROAD, GLOUCESTER : TEL. 24125



A revolution in heating



safe The Radisil is guarded according to the B.S.S. 1945. There are absolutely no exposed contacts and because it is mounted or suspended above floor level the Radisil is out of harm's way.

economic Because of its special design the Radisil provides more heat for a low consumption of electricity just where it is needed. No waste in heating unoccupied areas.

efficient The Radisil provides maximum thermo-electric conversion as the scientifically designed reflector and special construction of the silica-sheathed element ensure the best possible output for the current consumed.

versatile The Radisil can be used *anywhere*. It has an ever-increasing variety of uses in offices, shops, factories, and for all kinds of heat-processing.



WRITE TODAY FOR FURTHER DETAILS

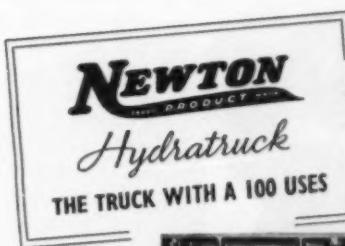
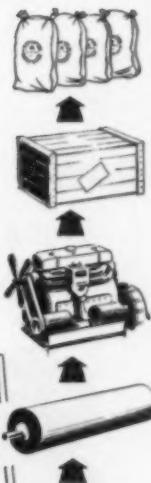
* Your local dealer will be pleased to show you the Radisil for the home.

Hanovia SLOUGH · BUCKS

TELEGRAMS

SEPTEMBER, 1957

LIFT any LOAD with ONE HAND



Patent
No. 647817
World
Patents
Pending

Cuts cost of
stacking, loading
unloading, works'
transport, etc.



Lifts half-ton nearly 5 ft. in 1 minute
Superb ease of operation
Saves man-power
Reduces damage to goods

PRICES FROM £125 EX. WORKS

Send for Illustrated Technical Brochure No. 235/F1

POWER JACKS LIMITED

VALETTA RD - ACTON - LONDON - W.3

Tel: Shepherd's Bush 3443/6

Grams: Newsother, Ealux, London

153

What's going on . . .



FEEDING THE GRAPEVINE

Continued from page 71

with which he greeted any sign of extra zeal, the joking remarks he threw to bystanders when he saw someone moving briskly to pick up his tools and get to work, above all his general attitude to work and to the works—all these made it clear what the wrong man in this humble position could do to keep alive old attitudes of class conflict and workshop practices of ca'canny.

In contrast, there is another works where by chance I have come to know personally a stores assistant who carries out his duties in a very different spirit. He is pleasant to know; he has simple interests, gardening, football and his home, but he is interested in them. He has a good sense of humour and is always ready to crack a quick joke. As a matter of fact, he differs politically from many of his fellow workmen but they respect him for what he is and even at election times the badinage is generally very good-humoured.

Well Placed

Together with these more personal qualities, however, this man is a loyal worker and his job is important to him because of the importance he attaches to the business he works in. This does not mean that he is uncritical and that he contributes to the grapevine only the kinds of facts that top management are anxious shall go around the works. But the tone with which he spreads gossip and jokes carries no damage with it, and his general belief in the firm is one thing which he unconsciously communicates all the time. Such a man is well placed because he is free from personal envy and does not view with malice those with higher incomes because of their own efforts or skills.

Top management cannot directly 'feed the vine' in the sense of controlling what goes along it (and perhaps they ought not to try to do so beyond providing sources of correct information). But I believe

they can do a lot to improve the informational and emotional health of a works by paying much more attention to the personnel placed in the kind of humble subordinate position which nevertheless acts as a natural information centre for the man on the shop floor. I am not suggesting it would benefit a firm to have a 'stooge' in these positions. That would defeat its object; the grapevine would take a turn and not draw information from these planted sources. But it does behove management to watch out for the general quality of loyalty and, I think, to welcome it if it is on occasion expressed with some critical independence.

Outside Vine

Following the same train of thought, let me call attention to the grapevine which operates outside a business. Management today are, of course, taking much more active steps to provide their own stream of information here as well. Here also, however, they only too frequently neglect the humble posts in the enterprise which nevertheless play an important part in contacts with the outside world just because their effect is cumulative.

There are few businesses which one is pleased to telephone because of the courtesy, promptness and accuracy which an enquiry receives. But if many fall below perfection, there is great variability and the differences play their part in one's impression of the business as a whole.

Similarly, in many cases even the doorkeeper or gateman leaves an impression which requires a lot of compensating experience to dissipate. (And perhaps because it is a matter of general efficiency to look after this kind of appointment it should be said that prolonged acquaintance often only confirms one's impressions!) Both the telephonist and doorkeeper, let it be remembered, reach levels of the public to which management penetrates only with difficulty. *END*

THE CHALLENGE IN EUROPE

Continued from Page 96

to meet the competition? Should we switch to the manufacture of other lines? If so, which lines? Is it worthwhile setting up factories in Europe? Shall we manufacture European goods under licence? Shall we sell manufacturing rights to Continental firms?

Organization

Shall we set up a special department? Shall we expand our home sales force to cover Europe? Do we need specialist advertising agents? Do we need to teach some of our staff Continental languages and business practice? Can we import Continental sales, clerical and service staff? Should we send people to the Continent now?

These and hundreds of other questions have to be answered by British businesses if the challenge of freer trade is to be met. Most of the firms now spending time and money in efforts to get the answers realise that they will not be complete. After all, nobody can foretell the future. But they are investigating, and in a few cases already taking action, because they believe that on the road to survival and to better profits it pays to be a few months ahead of their competitors—here and on the Continent.

Common Market Reading List

Starred items should be regarded as essential reading.

Problems of Economic Union by J. E. Meade. Allen and Unwin. 1953. 9s. 6d.

Western Co-operation. C.O.I. April 1956. 5s. from H.M.S.O.

Second Thoughts on Western Europe. Article in "The Listener", 11 October 1956.

Free Trade—Gain or Pain. Article in "The Economist", 13 October 1956.

*** Economic Association with Europe: Statement of Policy and Background Report.** T.U.C. November 1956. 6s.

The Coal-Steel Example. Article in "The Banker", November 1956.

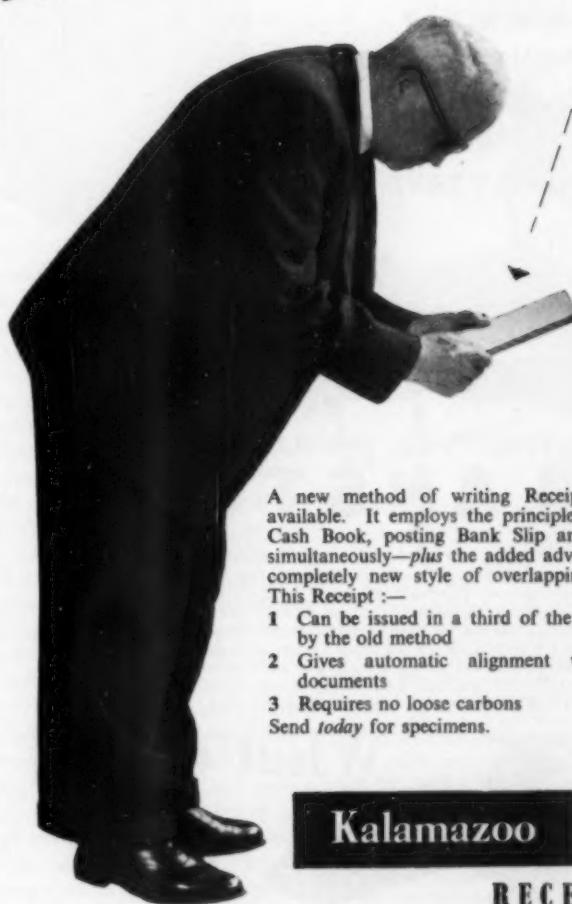
Lessons from Benelux. Article in "The Banker", December 1956.

Continued on next page

SEPTEMBER, 1957

.... going on ?

It's a new method of Receipt writing!



A new method of writing Receipts is now available. It employs the principle of writing Cash Book, posting Bank Slip and Receipts simultaneously—plus the added advantage of a completely new style of overlapping Receipt. This Receipt :—

- 1 Can be issued in a third of the time taken by the old method
- 2 Gives automatic alignment with other documents
- 3 Requires no loose carbons

Send *today* for specimens.

Kalamazoo

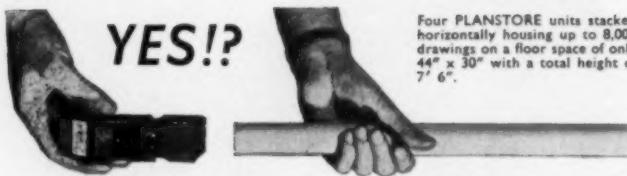
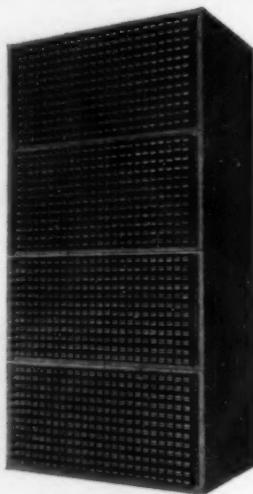
RECEIPTS

Kalamazoo Ltd., NORTHFIELD, BIRMINGHAM 31

Would you like to file and find ...

ANY DRAWING IN SECONDS

AND GAIN SPACE
AND PREVENT DAMAGE
AND EXCLUDE DUST
AND PROMOTE EFFICIENCY
AND ACTUALLY SAVE MONEY



THEN YOU SHOULD INSTALL **PLANSTORE**

PLANSTORE (Covered by Patents) is the greatest advance ever made in drawing storage. For drawings in constant use or for bulk storage of drawings only required occasionally, PLANSTORE is the complete answer. PLANSTORE Major for bulk storage has 2" caps each housing up to twelve drawings. PLANSTORE Minor for drawings in daily use has 1½" caps so that each drawing can be withdrawn instantly, but if required they will house up to five drawings each. Both Major and Minor units have the same external dimensions, 44" x 22" x 30". PLANSTORE Major houses up to 2,000 drawings, PLANSTORE Minor up to 1,500 drawings per unit.



IF 20 DRAUGHTSMEN SAVE 20 MINUTES
FOR 20 DAYS YOUR PLANSTORE IS PAID FOR
(and keeps on saving for ever after)

WRITE NOW FOR DETAILS ON PLANSTORE TO:



PADDINGTON GREEN WORKS • LONDON W.2 • AMBASSADOR 1641 (5 lines)

Common Market Reading List

Continued from page 155

Britain and the European Market. Published by the European Youth Campaign as supplement to "Young Europe", December 1956.

Policy of the Common Market Developments and the Use of Europe's Resources (The Speake Report). P.E.P. December 1956. 2s. 6d.

The European Free Trade Area. F. C. Pritchard Wood and Partners. March 1957. Free.

Report on the Possibility of Creating a Free Trade Area in Europe. O.E.E.C. January 1957. 3s. from H.M.S.O.

Western Europe: Facts on a Market of 200 Million People. British Market Research Bureau Ltd. 1957 (4th Ed.). Free.

*** British Business and the Common Market in Europe.** "Trend" Supplement No. 19/2. The Economist Intelligence Unit. January 1957. 6s.

*** A European Free Trade Area: U.K. White Paper.** H.M.S.O. February 1957. 6d.

Doubts About the Free Trade Area. Article in "The Listener", 28 February 1957.

The European Common Market. Article in "World Today", February 1957.

*** More Moves Towards European Free Trade.** "Trend" Supplement No. 19/3. February 1957. 6s.

*** Free Trade Symposium.** Bulletin of the Oxford University Institute of Statistics. Basil Blackwell. February 1957. 10s. 6d.

Free Trade Supplement. "News Chronicle", 26 March 1957.

Into Europe. Article in "The Banker", March 1957.

*** European Free Trade: a Survey for Industrialists.** F.B.I. April 1957. 6s.

Your Future. "Daily Express" pamphlet. Free.

A Free Trade Area in Europe. U.K. Council of the European Movement. May 1957.

Payments Threat to Free Trade. Article in "The Banker", May 1957.

Agriculture and the Free Trade Area. U.K. Council of the European Movement in co-operation with British Section, European League for Economic Co-operation. June 1957.

*** Free Trade in Europe: an Official Account.** H.M.S.O. June 1957. 2s.

*** Common Market Treaty Signed.** "Trend" Supplement No. 20/2. April 1957. 6s.

*** On the Way to Free Trade in Europe.** "Trend" Supplement No. 21/1. July 1957. 6s.

The First Steps in European Integration by Sir Cecil Wier. Federal Education and Research Trust. June 1957. 1s. 6d.

Your Changing Export Markets. Article in "Business", July 1957.

Your New Continental Market. Article in "Business", August 1957.

World Business Spotlight (Continuous service). Prepared and published by the Economist Intelligence Unit. Weekly. £20 a year.

HOW TO MAKE PROFIT-SHARING PAY MANAGEMENT DIVIDENDS

Continued from page 92

board are kept up to date every day (see illustration). This is done by estimating costs during the week, and correcting the five-day total at the week-end.

Progress charts also give costs/sales breakdown for individual sections of the firm, though the bonus is reckoned on group performance. This introduces a slightly competitive element which has proved successful. Charts also show last month's bonus, and mark the level reached at the same time a year back.

No committee watches over the scheme. For competitive reasons the firm do not like to publish detailed facts and figures. But every year the auditors go over the incentive accounts, and issue a certified statement (displayed in the works) that it has been fairly administered. The men didn't ask for this assurance, but it does clear up any lingering doubts they may have in bad months.

Complaints about the scheme are hardly ever heard, but sometimes there is puzzlement. Then a spot meeting may be called by the managing director or another executive to explain how certain results have come about. Experience has shown that *ad hoc* meetings do more good than regular committees.

Share-out of bonus does not take into account the actual hours worked by an employee, but is based on individual 'merit' wages which take the place of basic rates at this firm. These wages are expressed in units of 5s., and the bonus payment is apportioned on a simple *pro rata* basis.

Adjustments. The firm agree that there is a problem here. What happens if productive efficiency is greatly increased by management's capital investment in better machinery? What happens if a fully automatic process is installed?

So far only the first question has

arisen. The firm's answer has been to concede the extra efficiency to employees, who in any case only get a percentage of the benefit. It was thought better to keep the scheme unchanged, rather than unsettle it for a relatively insignificant amount of money.

If fully automatic machinery is installed, then the firm will be realistic. The department or section dependent on that machinery will have to be excluded from the scheme.

Advantages gained since 1949 have been considerable. The scheme provides automatic quality control, as the men realize how quantity at the expense of quality hits at their own bonus. Overall output per man since the scheme was installed has improved dramatically—120 per cent—as has also total output of the works, though not all gains are attributable to the scheme.

Employees have benefited considerably. Bonus payments this year have averaged about £3 10s. per man per four-week period. Even this satisfactory sum is less than that achieved in 1954, a bumper year. Undoubtedly the scheme has helped the company build-up a first-class work force in spite of strong competition from rival firms.

But the scheme is no management cure-all. Mr. Siviter Smith emphasizes this point. "It will not operate successfully if it is just 'put in' and then left to operate itself," he says.

"In our opinion, no incentive scheme works itself. The relationship between management and work-people must be satisfactory before a scheme of this nature will give of its best.

"The scheme alone may produce improvement. But if proper attention is paid day by day to the relationship between management and workers, improvement under the scheme will be much greater." *END*

SAVE FLOOR SPACE



In every business, the efficient use of floor-space is of prime importance, and a good business demands an adequate method of storing extra or unused chairs.

The REDRO NESTING CHAIR is a strong, light-weight and comfortable chair which, when not required, can be stored in an absolute minimum of space.

15 chairs, nesting one upon another, can be quickly and easily stacked in about 5 square feet of floor-space.

The REDRO NESTING CHAIR is one of the lowest-priced chairs on the market, and is available in a choice of 12 colours in easy-to-clean stove enamel, or in a chromium-plated finish.



Write NOW for our illustrated leaflet

REDRO LTD.

(Dept. 28, Cogan Street, Hull)

HOW TO GET MORE WORK FROM DICTATING MACHINES

Continued from page 133

Interviewed during the day are despatched by letterpost to Hatfield.

When an officer returns from one of these trips he finds on his desk a complete set of typed reports—so there is no delay in following them up. But if, during his travels, he wishes to snap up a good man who might otherwise be lost to another employer, he dictates a letter of engagement and sends the belt to Hatfield for immediate action.

A different policy is favoured in the case of executives whose work away from the office involves less reporting. They are encouraged to make use of the manufacturer's 'travel service' plan—an arrangement whereby a machine can be installed on loan in the hotel where the executive is staying. This avoids the necessity of tying up a de Havilland machine which could be used more intensively

(and more profitably) either at head office or at the Chester factory.

The company's own machines are used for certain types of 'detached' work. For example, a team of five maintenance engineers at R.A.F. Transport Command, Lytham, Wiltshire, make all their reports to head office in this way.

For Requisitioning. Branch works indent for stores by recording their requirements on plastic belts. These are listed as soon as they reach the main stores and the requirements are despatched. Advantages are (1) typists are not required at the smaller units and sub-sections; (2) more paperwork is under the direct control of head office staff; and (3) people who are not typists don't have to spend time at a typewriter—a misapplication of skill which can be expensive in more ways than one.

For Telephone Calls. Individuals and departments who handle important telephone calls use machines fitted

with a device which records both sides of a telephone conversation. This helps to prevent misunderstandings—and also enables other interested executives to receive the information in its original form.

For Stocktaking. To facilitate stock-taking at the end of the financial year, all stocks are pre-listed some time in advance so that pricing and other clerical work can be done before the actual quantities are recorded.

In the past an outside typing agency handled the pre-listing of stock sheets—a long and costly job. Now, however, the pre-listing is done with dictating equipment during the factory's annual holiday.

Information is dictated by experienced clerks as they go through the records. For transcription, it has been found that only four typists are needed. Working during the two-week shut-down period, they are able to give their whole attention to the job, and the routine work is not upset in any way.

END

why A LAMSON AIRTUBE SYSTEM ...



The problem facing Industry today is how to use manpower to its best advantage. Lamson Carrier Airtubes free manpower from the burden of carrying messages, files, samples, etc., from place to place thus increasing speed, security and efficiency. We can help you. Write or 'phone for our Representative to call and explain how Lamson Airtubes can help YOU

LAMSON ENGINEERING CO. LTD.

(Dept. D.9)

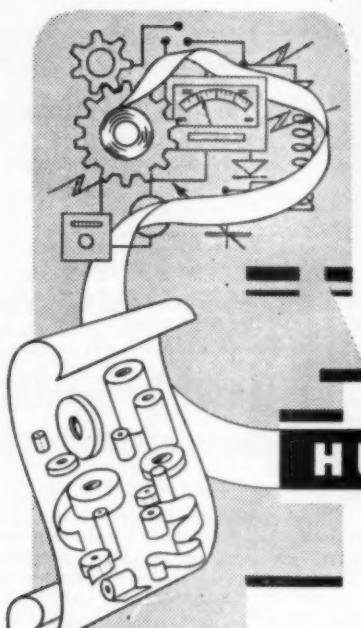
HYTHE ROAD . LONDON . N.W.10

Telephone : LADbroke 2424

Telegrams : KELYWIL, HARLES
LONDON

PAPER ROLLS

are geared to AUTOMATION



PAPER ROLLS for Electronic computers, Machinery for statistical recording, accounting, adding and calculating, Cash registers, Issuing machines for transport and entertainment.

PAPER ROLLS

plain, printed, perforated and gummed.

WE MAKE THEM ALL

HUNT & COLLEYS LTD.

***THE** Specialists for every conceivable type of Paper Roll*

HUCKNALL ROAD, NOTTINGHAM. Telephone: 61088/9

Rototherm

THE ROLLS-ROYCE OF THERMOMETERS



Over 3,000,000 in daily use

DIAL THERMOMETERS, RECORDERS and CONTROLLERS for every Industrial Purpose write for catalogue

Rototherm

BI-METAL • MERCURY-IN-STEEL • VAPOUR PRESSURE
THE BRITISH ROTOTHERM CO. LTD., Merton Abbey, London, S.W.19 LIB 7661

VISIT STAND No. 16,
Olympia, London, August 29—September 12
The Engineering, M. W & Nuclear Energy Exhibition

SEPTEMBER, 1957



MAN POWER

IS TIME POWER

Time on the job enters into every stage of industrial production.

Arrivals and departures, time on the bench or machine, breaks for meals and overtime are all related to cost of production.

GLEDHILL-BROOK Time Recorders provide the most adaptable means of recording regular or irregular hours on the job, automatically and accurately, every minute of every hour day and night.

With 8-day mechanical clock movement or electrical operation.

Write for full information and illustrated leaflet to

GLEDHILL-BROOK

GLEDHILL-BROOK TIME RECORDERS LTD

38 EMPIRE WORKS :: HUDDERSFIELD

BUSINESS SERVICES AND SUPPLIES

AUTEX LTD. 'RENT' Photo-Copying Machines

2 WEEKS TO 4 YEARS

ADVANTAGES

1. All rental payments are allowable against profits tax at the standard rate.
2. Saves capital expenditure.
3. All rented machines are maintained FREE of charge.
4. All rented machines may be exchanged for the latest models.

OFFER TO LONDON AREA ONLY

Demonstration and Details
from

**AUTEX LTD. 166, Piccadilly,
London, W.1. Tel. Gre. 5871**

Fifty Years of Fine Furniture 1906—1957



Stacking Chairs

BY

HANDS OF WYCOMBE

Hotel, Ship, Municipal, Cafe, Office
and Boardroom Tables and Chairs

DASHWOOD AVENUE, HIGH WYCOMBE, BUCKS
Telephone 1222/4

Manchester Showrooms:

C. Dean & Co., 465 Chester Road, Manchester, 16
Telephone Trafalgar Park 3678

SIGNMAKERS

STURGEON SIGNS

PRACTICAL SIGNMAKERS,
DESIGNERS, WRITERS & FIXERS,
POSTERS & SHOWCARDS

2 CLEGG ST. (HIGH ST.) PLAISTOW, E.13

Telephone: CRA 3155

Lithographic

PRINTING

ROTAFLOW LTD.

"Multilith" and "Rotoprint" Specialists

159 SEYMORE PLACE, W.1.

PADDINGTON 23

STAFF LOCATION SYSTEMS

CONSULT

COMMUNICATION SYSTEMS LTD.
FOR PRIVATE TELEPHONE
SYSTEMS AND RELATED SERVICES—
CASH OR RENTAL TERMS

TEMple Bar 4506

A MEMBER OF THE AUTOMATIC
TELEPHONE AND ELECTRIC GROUP

PRINTERS

Complete Manual Accounting Systems

C. CAKEBREAD LTD.

Bache Street, London N.1
(Visible Reference Dept.)
Tel: CLErkenwell 6544

Stationery For Accounting Machines

FILING EQUIPMENT

FILING & LOOSE LEAF EQUIPMENT

GOOD STATIONERS STOCKED BY
EVERYWHERE

GUIDEX FOR VALUE

TRADE LOOSE LEAF Co Ltd BIRMINGHAM 12

EDITORIAL SERVICES

Editorial publicity brings business*

COMMERCIAL EDITORIAL SERVICES

(Press and Public Relations Consultants)

Can get it for you!

197/8 Temple Chambers, Temple Ave.,
London E.C.4. FLEet Street 0048

*We can prove it!

Are you
Bandy-minded?



In almost every industry RUBBER BANDS can be used
to save time, speed production and cut costs. We shall
be happy to give suggestions and quote for your needs.

COOMBS of WIMBLEDON

H. A. COOMBS LTD., STANDARD WORKS, RICHMOND RD., WIMBLEDON, LONDON, S.W.20

Tel: Wimbleton 6155

CLASSIFIED ADVERTISEMENTS

CATERING CONTRACTORS

Industrial catering problems simplified by the catering contractors. Wm. S. Ellis Ltd., 73 New Bond Street, London, W.1. Telephone MAYfair 6936.

DUPLICATE BOOKS

BETTER DUPLICATE BOOKS AT LOWER PRICES. Specialist equipment enables us to produce attractive, specially-printed duplicate books at amazingly low prices. List free. Browns Ltd., Calderdale Works, Burnley, Lancs.

FILING EQUIPMENT

Improved Letter Files. Ask for list. Gazebo, 57 Packington Road, Acton, London, W.3. ACOrn 4731.

FOR SALE

"Addressograph" Machines (rebuilts guaranteed). Cabinets, frames, plates and accessories. Nevad Desso & Co. Ltd., 102-105 Shoe Lane, London, E.C.4.

FULL STEAM IN FIVE MINUTES with B. & A. Electrode Boilers. Used by British Industries for 20 years. No boilerhouse, no flue, no attendant needed. The most compact and convenient steam raisers available, can go beside machines using the steam. Write for leaflet 107, Bastion & Allen Ltd., Ferndale Terrace, Harrow.

"REMINGTON RAND" Fireproof Safe 72in. high x 51in. wide x 38in. deep o/d. 60in. high x 42in. wide x 27in. i/d. Combination Lock £125 0 0

"REMINGTON RAND" Filing Cabinet. Fireproof. Four-drawer. Combination lock. Reconditioned £75 0 0

"REMINGTON RAND" Fireproof ledger posting trolleys £35 0 0

"ADDRESSOGRAPH" Cabinets with 18-trays £13 10 0

"SUMLOCK" Calculator £45 0 0

"COMPTOMETERS", hand operated, Decimal/Sterling, etc. From £55 0 0

"FRIEDEN" Calculator. Hand model £45 0 0

"KARDEX" 14 trays, 11in. x 9in. c/w pockets £30 0 0

"KARDEX" 9 trays, 11in. x 9in. c/w pockets £35 0 0

"SKANDEX" 12 trays, 8in. x 8in. c/w pockets £36 0 0

"SHANNON ACME" new visible cabinets, 12 trays 8in. x 8in. ... £35 0 0

"SELDEX" Cabinets, 16 tray, 8in. x 8in. pockets on wires £35 0 0

Send for full list of 2,000 bargains in office equipment to:

Commercial Equipment Co. (London) Ltd.

180, Pentonville Road, London, N.1.

Terminus 9663-2116

P
R
E
S
T
E
X



Competitively priced "Prestex" Timers are precision tested. 7 jewelled with pre-lined pallet movement, and interchangeable precision made parts for speedy repair. Prestex set a new standard—especially in value.

• PRESTONS LIMITED
BRITAIN'S LARGEST SUPPLIERS OF STOP-WATCHES TO INDUSTRY
PRESTONS, LTD., BOLTON LANES, TEL BOLTON 8761

for Stop-Watch Value

FOR SALE (contd.)

Gestetner 180 (1952) electro duplicator; brief size; new condition, regularly maintained by manufacturers. Box No. 1463, c/o BUSINESS, 109/119 Waterloo Road, S.E.1.

KARDEX filing cabinets for sale. Very little used and in perfect condition. 12-tray size £12.10.0; 13-tray (unused) £15; 16-tray £16.10.0; 23-tray £27.10.0. Carriage paid. T. CATTERALL, GOLBORNE, NR. WARRINGTON, LANCs.

KARDEX, RONEODEX AND SHANNON CABINETS, as new. F. H. Jolly & Co. Ltd., 289 King Street, London, W.6. RIV 5381.

Oxalid Lite Riter, new Sept. 1956, cost £150 with Ozarapid Develop Unit, cost £45. What offers? Apply to L.F.C. Co. Ltd., 247/9 Vauxhall Bridge Road, S.W.1. Tel. Vic 4274.

M. A. RAPPORT & CO. LTD., Bridge Street, Cardiff, having changed their accounting system have the following machines surplus to requirements: 2 Burroughs 5 register a/c machines 1 Burroughs 4 register and 1 Burroughs 3 register. No reasonable offers refused.

A Burroughs Sensimatic Accounting Machine complete with stand and tray. Series 100. 3 Registers + total. Set up for standard Purchase/Sales Accounting. Cost £1,000. 6 months' use. Lashmar, 77 Davies Street, W.1.

100 bays of brand new Adjustable Steel Shelving, 72in. high by 34in. wide by 12in. deep, stove enamelled bronze green. Sent knocked down—6-shelf bay—£3 15s. Od. Sample delivered free. N.C. BROWN LTD., EAGLE STEEL WORKS, HEYWOOD, LANCS. Telephone 69018.

HIRE PURCHASE

Finance available for discounting Invoices and Trade Bills. Hire Purchase and Credit Sale facilities for all commodities—D. Everard Limited, 62 Oxford Street, London, W.1.

MISCELLANEOUS

AUTO ELECTRIC TIME RECORDERS. Two colour, no levers, bell ringing also reconditioned, cash or rental, exchanges. Details—Business Equipment Services, Lymm, Cheshire, Tel. 1051.

COMPTOMETER, SUMLOCK & BURROUGHS Rebuilt Calculators. Guaranteed with service. Hire or Sale. Rough or rebuilt machines to the trade. K. Lowther, 12 Curzon Road, Stratford, Manchester.

WANTED

Addressograph equipment complete, and/or Cabinets, frames, accessories, etc. Box No. 1352, c/o BUSINESS, 109/119 Waterloo Road, S.E.1. Kardex etc. wanted. OFCO Ltd., 182 Vauxhall Bridge Road, S.W.1.

POWERS 40 U. A. K. Punches, also hand punches and hand verifiers. Details of these and other 40 column equipment to Cabot, Burton, Son and Sanders Ltd., P.O. Box 31, Ipswich.

Required two "Neopost" Franking Machines. Must be in good condition. Electric or hand would suit. Reply Secretary, Universal Sewing Machines Ltd., 27-33 Hurst Street, Birmingham S.

Wanted secondhand "Odhner" or other Calculator, also secondhand Adding/Listing machine. A.T.C.B., 85 High Street, Croydon.

Wanted Chubb 9303 Safe File or similar. Box 1462, c/o BUSINESS, 109 Waterloo Road, S.E.1.

CALCULATING SERVICES LTD

MACHINE OPERATING EXPERTS

We undertake all kinds of adding, calculating and statistical figure work including STOCK SHEETS, ESTIMATES, etc. Many large and small firms throughout Great Britain use our service. If interested send for brochure C.S.6.

LONDON OFFICE:
130 Crawford St., at Baker St., W.1.
Tel. Wei 4328. Miss Harper

BIRMINGHAM OFFICES:
1 Albert Street, 4. Tel. Can 6541
Miss Tomalin. (Established 24 years)

OUT OF FOLDERS?
We carry London's largest stocks.
Special size Wallets, Files, etc. our
speciality.
CROFTON LIMITED
7/11 GILLINGHAM STREET, LONDON S.W.1
TATE GALLERY 0077

For Typewriters..

and
ALL Office Equipment
STRAND OFFICE MACHINES LTD
265 STRAND, W.C.2. TEL: 17304/7
AND CARRIED WITH MAUBARD MAUBARD DISPLAY CO. LTD.

REBUILT ACCOUNTING MACHINES
for prompt delivery. All equipment fully guaranteed for one year. Maintenance service available on expiry of guarantee. Free preparation of systems, training of operators and installation services.

H. H. DURHAM LTD.,
85 BLACKFRIARS RD., LONDON, S.E.1



For the important papers of important people

A new presentation of fine office furniture by **MAUBARD**

from The Document Group

SEND FOR FULLY DESCRIPTIVE CATALOGUE

THE MAUBARD DISPLAY CO. LTD.

86 DERBYSHIRE STREET, LONDON, E.2

Phone: BISHOPSGATE 7850-1838

**CLASSIFIED GUIDE TO
BUSINESS AND INDUSTRIAL
EQUIPMENT & SERVICES**

**ACCOUNTING
MACHINES**

Bulmer's (Calculators) Ltd. 136
Burroughs Adding Machine 26
National Cash Register 83
Remington Rand Ltd. 23, 163

ACCOUNTING SYSTEMS

Art Metal Construction ... 104
Carter-Davis Ltd. ... 22
Copeland-Chatterson Co. 55
Kalamazoo Ltd. ... 154, 155
Lamson Paragon Ltd. ...
Powers-Samas Ltd. ... 47
Roneo Ltd. ...
Shannon Ltd. ...

ACOUSTIC CEILINGS

Burgess Products Ltd. ... 62
Sound Control Ltd. ... 40

ACOUSTIC ENGINEERS

Burgess Products Ltd. ... 62
Sound Control Ltd. ... 40

ADDING MACHINES

Block & Anderson Ltd. ... 97-100
British Olivetti Ltd. ... 139
Brunsviga Sales Co. Ltd. ... 45
Bulmer's (Calculators) Ltd. 136
Burroughs Adding Machine 26
Byron Business Machines ... 117
National Cash Register ... 83
Van Der Velde (Office
Equipment) Ltd. ... 151

ADDRESSING MACHINES

Addressall Machine Co. ... 125
Adrema Ltd. ... 108
Block & Anderson ... 97-100
Roneo Ltd. ...

**ADDRESSING MACHINE
ATTACHMENT**

Fanfold Ltd. ...
Lamson Paragon Ltd. ...
Smith, W. H., & Son
(Alacra) Ltd. ...

ADVERTISING GIFTS

Sculthorpe, R., & Co. Ltd. ... 119
AIRBORNE FIRE
PROTECTION
EQUIPMENT

Graviner Manufacturing
Co. Ltd. ... 54

ASSURANCE
Legal and General Assurance
Society ... 20

BANKS
Midland Bank Ltd. ... 14

**BOOKS AND
PUBLICATIONS**
Financial Times ... 2
Pitman, Sir Isaac, & Sons
Ltd. ... 164
Tillotsons Newspapers Ltd. 16

BROADCAST MUSIC
Dictograph Telephones ... 111
Telephone Rentals Ltd. ... 13

BUSINESS ACCESSORIES
Coombes, H. A., Ltd. ... 160

**CALCULATING
MACHINES**

Block & Anderson Ltd. 97-100
British Olivetti Ltd. ... 139
Brunsviga Sales Co. Ltd. ... 45
Bulmer's (Calculators) Ltd. 136
Burroughs Adding Machine 26
Felt & Tarrant Ltd. ... 34
Office Equipment Distributors (B.T.L.) Ltd. ... 121, 140
Remington Rand Ltd. ... 23, 163
Sunlock Ltd. ... 93

**CALCULATING
SERVICES**
Calculating Services Ltd. ... 161

CANTEEN EQUIPMENT
Bartlett, G. F. E., Ltd. ... 132
Coolers & Venders Ltd. ... 131

**EDUCATIONAL SUPPLY
ASSOCIATION LTD.**
Farquharson, James, &
Sons Ltd. ... 131

STILL, W. M., & SONS LTD. ... 43

CASH REGISTERS

National Cash Register ... 83

**CHARTS AND PLAN
BOARDS**

Adaps Charts Ltd. ... 112
Block & Anderson Ltd. 97-100
Remington Rand Ltd. ... 23, 163

CHEQUE SIGNING

Universal Postal Frankers
Ltd. 141

CHEQUE WRITER

Habdy & Co. Ltd. ... 115

CINE EQUIPMENT

Rank Precision Industries
Ltd. 33

**CLOAKROOM
EQUIPMENT**

Bawn, W. B., & Co. Ltd. ... 128
Constructors Ltd. ... 42
Harvey, G. A., & Co. ... 53
Westwood, Joseph, & Co.
Ltd. 131

**COIN COUNTING
MACHINES**

International Coin Counting
Machine Co. Ltd. ... 49

**COLLEGES AND
COURSES**

Tack School of
Salesmanship 18

CONDENSERS

Dubilier Condenser Co.
(1925) Ltd. cover iii

Telegraph Condenser Co.
Ltd. cover ii

**CONTINUOUS
STATIONERY**

Carter-Davis Ltd. ... 22
Copeland-Chatterson Co. ... 22
Egry Ltd.

FANFOLD LTD.

Hunt & Colleys Ltd. ... 159
Lamson Paragon Ltd. ...
Perry & Sons Ltd. ...
Smith, W. H., & Son
(Alacra) Ltd. ...

HEATING

Hanovia Ltd. 153

INDUSTRIAL CLEANING

B.V.C. Eng. Co. ... 142
Columbus-Dixon Ltd. ... 151
Lamson Engineering Co. ... 158

INSURANCE

Vulcan Boiler and General
Insurance Co. Ltd. ... 115

INSURANCE BROKERS

Superannuation Advisory
Services Ltd. 51

**LETTER OPENING
MACHINES**

Block & Anderson Ltd. 97-100
International Coin Counting
Machine Co. Ltd. ... 49

LIGHTING

Luminated Ceilings Ltd. ... 94

**LOOSE LEAF LEDGERS
AND SYSTEMS**

Art Metal Construction ... 104
Copeland-Chatterson Co. ... 55
Kalamazoo Ltd. ... 154, 155
Lamson Paragon Ltd. ...
Shannon Ltd. ...

MARKING EQUIPMENT

Cushman & Denison Ltd. ... 120

**MECHANICAL
HANDLING**

Barron & Shepherd Ltd. ... 141
Lamson Engineering Co. ... 158
Power Jacks Ltd. ... 153

MICROFILM CAMERAS

Kodak Ltd. 116

NOISE PREVENTION

Burgess Products Ltd. ... 62

OFFICE FURNITURE

(STEEL)

Chatwood-Milner Ltd. ... 117

Remington Rand Ltd. ... 23, 163

SEATING

Evertaut Ltd. 127

LEABANK OFFICE EQUIPMENT

Ltd. 119

SAFES

Chatwood-Milner Ltd. ... 117

Remington Rand Ltd. ... 23, 163

**VENTILATING
EQUIPMENT**

Colt Ventilation Ltd. ... 63

WATCHMEN'S CLOCKS

Block Time Recorders ... 19, 145

GENT & CO. LTD.

Ltd. 146

**I.B.M. UNITED KINGDOM
LTD.**

Ltd. 85

**LLEWELLINS MACHINE
CO. LTD.**

Llewellins Machine Co. Ltd. 135

BUSINESS

**FACSIMILE
COMMUNICATION
SYSTEM**

Credit & Co. Ltd. ... 36

**FACTORY EQUIPMENT
ACCESSORIES**

Constructors Ltd. ... 42
Sankey-Sheldon Ltd. ... 38

**FILING AND VISIBLE
RECORD SYSTEMS**

Acme Showcard and Sign
Co. Ltd. 20

ART METAL CONSTRUCTION

Block & Anderson Ltd. ... 104

BLOCK & ANDERSON LTD.

Ltd. 128

CAVE, C. W., & CO. LTD.

Ltd. 118

EPSTEIN, S., LTD.

Ltd. 124

HANDS, W., & SONS LTD.

Ltd. 160

HILLE OF LONDON LTD.

Ltd. 145

MAUBARD DISPLAY CO. LTD.

Ltd. 161

SHANNON LTD.

Ltd. 127

ART METAL CONSTRUCTION

Block & Anderson Ltd. ... 104

CONSTRUCTORS LTD.

Ltd. 42

DEXION LTD.

Ltd. 8, 9

EVERTAUT LTD.

Ltd. 127

GASCOIGNE, GEO., CO. LTD.

Ltd. 57

HANDY ANGLE MFG. CO.

Ltd. 123

HARVEY, G. A., LTD.

Ltd. 53

ODONI, ALFRED A., & CO.

Ltd. 156

RANDALL ORGANISATION LTD.

Ltd. 156

RUBERY, OWEN LTD.

Ltd. 24

SANKEY-SHELDON LTD.

Ltd. 38

WESTWOOD, JOS., & CO. LTD.

Ltd. 131

WILLIAMS & WILLIAMS LTD.

Ltd. 41

**SHOW CARD
ACCESSORIES**

Hill Bros. (Service) Ltd. ... 135

**STAFF LOCATION
SYSTEMS**

Block Time Recorders
Ltd. 19, 145

dictograph telephones

Ltd. 111

GENT & CO. LTD.

Ltd. 146

MULTITONE ELECTRIC CO. LTD.

Ltd. 60

**STEEL STORAGE
EQUIPMENT**

Bawn, W. B., & Co. Ltd. ... 128

Brown, F. C. 126

Constructors Ltd. ... 42

Copeland-Chatterson Co. ... 55

Dexion Ltd. 8, 9

Evertaut Ltd. 127

Gascoigne, Geo., Co. Ltd. ... 57

Handy Angle Mfg. Co. ... 123

Harvey, G. A., Ltd. ... 53

Odoni, Alfred A., & Co. ... 156

Randall Organisation ... 156

Rubery, Owen Ltd. ... 24

Sankey-Sheldon Ltd. ... 38

Westwood, Jos., & Co. Ltd. ... 131

Williams & Williams Ltd. ... 41

STOP WATCHES

Prestons Ltd. 161

SYNTHETIC RUBBER

Du Pont, E. I., de Nemours
& Co. Inc. 59

**TELEPHONE AMPLIFIERS
AND ACCESSORIES**

Phonotac, The Co. Ltd. ... 123

**TELEPHONES AND
SOUND EQUIPMENT**

British Home and Office
Telephone Co. Ltd. ... 25

Communication Systems
Ltd. 160

dictograph telephones ... 111

GENT & CO. LTD. ... 146

MAGNETA TIME CO. LTD. ... 150

Pyre Ltd. 10

RELIANCE TELEPHONE CO. ... 103

Siemens Edison Swan Ltd. ... 54

Telephone Rentals Ltd. 13

**TEMPERATURE
CONTROL**

British Rototherm Co. Ltd. ... 159

**THERMOSTATS AND
OVERHEAT SWITCHES**

Graviner Manufacturing
Co. Ltd. 54

**TICKET PRINTING
MACHINES**

I.B.M. United Kingdom ... 85

TIME RECORDERS

Block Time Recorders ... 19, 145

dictograph telephones ... 111

GENT & CO. LTD. ... 146

GIEDHILL-BROOK LTD. ... 159

I.B.M. UNITED KINGDOM LTD. ... 85

MAGNETA TIME CO. LTD. ... 150

NATIONAL TIME RECORDER CO. LTD. 149

SERVICE RECORDERS LTD. 152

TELEPHONE RENTALS LTD. 13

TRANSPORT

Lep Transport Ltd. 144

**TYPEWRITERS AND
ACCESSORIES**

British Olivetti Ltd. 139

HALDA TYPEWRITER 122

I.B.M. UNITED KINGDOM LTD. 85

OFFICE EQUIPMENT DISTRIBUTORS (B.T.L.) LTD. ... 121, 140

OLYMPIC BUSINESS MACHINES LTD. 143

REMINGTON RAND LTD. ... 23, 163

VAN DER VELDE LTD. 151

VARI-TYPER DISTRIBUTORS 52

**VENTILATING
EQUIPMENT**

COLT VENTILATION LTD. 63

WATCHMEN'S CLOCKS

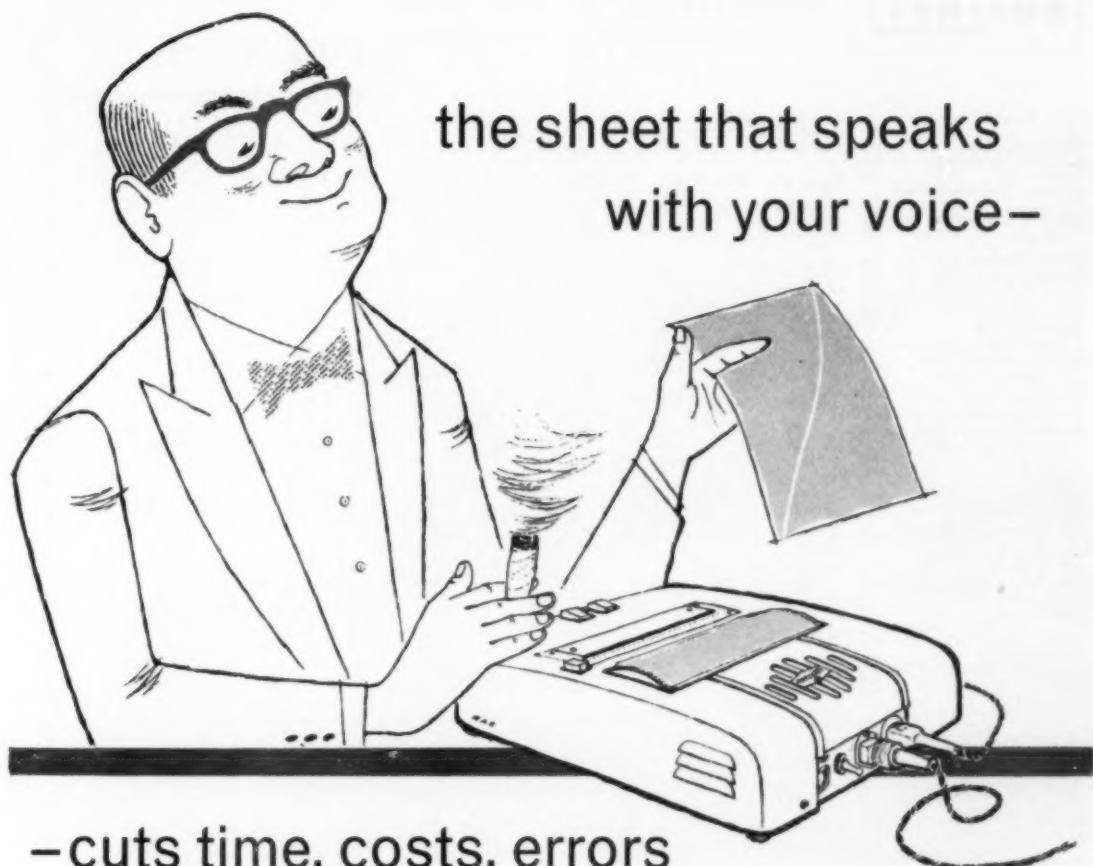
BLICK TIME RECORDERS ... 19, 145

GENT & CO. LTD. 146

I.B.M. UNITED KINGDOM LTD. 85

LLEWELLINS MACHINE CO. LTD. ... 135

the sheet that speaks
with your voice-



-cuts time, costs, errors

It is the SOUND SHEET of the REMINGTON ULTRAVOX - the most modern and efficient of all dictating machines. As easy to handle as a sheet of paper, it fits standard office folders, envelopes and equipment. Being practically indestructible, it can be used indefinitely. The sheets can be completely cleared for re-use in precisely 3 seconds. Any piece of dictation is accurately located in one second.

AND . . . it is the only medium that makes possible a

'carbon copy' duplicate of your recording. REMINGTON ULTRAVOX has in fact so many exclusive new features, designed from the user's point of view, that you need to see it in action in your own office to appreciate what it can do for you.

Send for the Man from Remington Rand. He will gladly demonstrate the REMINGTON ULTRAVOX - without cost or obligation.

REMINGTON ULTRAVOX

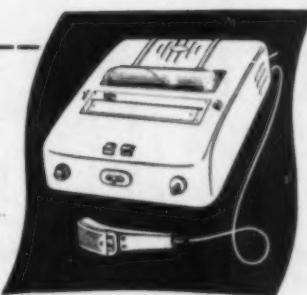
Please send me details of the Remington Ultravox Dictating Machines

NAME.....

POSITION.....

ADDRESS.....

.....UL/14



REMINGTON RAND LTD · 1-18 NEW OXFORD ST · LONDON WC1 · CHA 8883

SEPTEMBER, 1957

ADVERTISERS IN THIS ISSUE

For Classified Guide to Business and Industrial Equipment
see page 162

Acme Showcard & Sign Co. Ltd.	20	Enfield Box Co. Ltd.	121	Olympia Business Mch's. Co. Ltd.	143
Adapta Charts Ltd.	112	Epstein, S. Ltd.	124	Ozalid Co. Ltd.	48
Addressall Machine Co.	125	Eversat Ltd.	127		
Adrena Ltd.	108	Farquharson, James, & Sons Ltd.	131	Phonotax Co. Ltd.	123
Aromatic Disinfectant Block Co. Ltd.	128	Felt & Tarrant Ltd.	34	Pitman, Sir Isaac, & Sons Ltd.	164
Art Metal Construction Co.	104	Financial Times	2	Power Jacks Ltd.	153
Autex Ltd.	160	Freder Bros. Paper Mills	128	Powers-Samas Accg. Mch's. Ltd.	47
Baron Shepherd Ltd.	141	Gascoigne Co. Ltd.	57	Prestons Ltd.	161
Bartlett, G. F. E. Ltd.	132	Gen & Co. Ltd.	146	Pye Ltd.	10
Bawn, W. B., & Co. Ltd.	128	Gledhill-Brook			
Black Time Recorders Ltd.	19, 145	Time Recorders Ltd.	159	Randall Organisation	156
Block & Anderson Ltd.	97-100	Gordon & Gatch Advtg. Ltd.	56	Rank Precision Industries	
British Electrical Development Association	50	Gosheron, John, & Co. Ltd.	37	Ltd.	33
British Home and Office Telephone Co. Ltd.	25	Graviner Mfg. Co. Ltd.	54	Rank Xerox Ltd.	44
British Olivetti Ltd.	139	Hanovia Ltd.	153	Redro Ltd.	157
British Paints Ltd.	21	Harvey, G. A. (London) Ltd.	53	Reed, Albert E., & Co. Ltd.	107
British Rototherm Co. Ltd.	159	Hill Bros. (Service) Ltd.	135	Reliance Telephone Co. Ltd.	103
British Stationery Council	29	Hills of London Ltd.	145	Remington Rand Ltd.	23, 163
British Vacuum Cleaner and Eng. Co. Ltd.	142	Hunt & Colleys Ltd.	159	Rotaflow Lithographic	
Brown, F. C.	126	IBM United Kingdom Ltd.	85	Printers Ltd.	160
Brunsviga Sales Co. Ltd.	45	Ilford Ltd.	46	Rotaprint Ltd.	39
Bulmer's (Calculators) Ltd.	136	Industrial and Commercial Finance Corp. Ltd.	15	Rubbery, Owen & Co. Ltd.	24
Burgess Products Co. Ltd.	62	International Coin Counting Machine Co. Ltd.	49	Sankey-Sheldon Ltd.	38
Burroughs Adding Machine	26	Kalamazoo Ltd.	154, 155	Sculthorp, R., & Co. Ltd.	119
Byron Business Machines	117	Kodak Ltd.	116	Selder Dept., Constructors Ltd.	61
Cakebread, C. Ltd.	160	Lamson Engineering Co. Ltd.	158	Servis Recorders Ltd.	152
Calculating Services (B'ham)	161	Leabank Office Equipment	119	Siemens Edison Swan Ltd.	64
Carter-Davis Ltd.	22	Legal & General Assurance Society	20	Simplomatic Machine Co.	135
Catesby's Ltd.	86	Lep Transport Ltd.	144	Sound Control Ltd.	40
Cave, C. W., & Co. Ltd.	118	Llewellyn's Machine Co. Ltd.	135	Stedway Products Ltd.	149
Chatwood-Milner Ltd.	117	Jetleys (Gt. Britain) Ltd.	124	Still, W. M., & Sons Ltd.	43
Colt Ventilation Ltd.	63	Kalamazoo Ltd.	154, 155	Strand Office Machines Ltd.	161
Columbus Ribbon & Carbon Mfg. Co. Ltd.	125	Kodak Ltd.	116	Sturgeon Signs	160
Columbus-Dixon Ltd.	151	Lamson Engineering Co. Ltd.	158	Sumlock Ltd.	93
Commercial Editorial Services	160	Leabank Office Equipment	119	Superannuation Advisory Services Ltd.	51
Communication Systems Ltd.	160	Legal & General Assurance Society	20	Tack School of Salesmanship	18
Constructors Ltd.	42	Lep Transport Ltd.	144	Telegraph Condenser Co. Ltd.	cover ii
Coolers & Venders Ltd.	131	Llewellyn's Machine Co. Ltd.	135	Telephone Rentals Ltd.	13
Coombs, H. A., Ltd.	160	Lumonated Ceilings Ltd.	94	Tillotson's Newspapers Ltd.	16
Copeland-Chatterson Co.	55	Magneta Time Co. Ltd.	150	Trade Loose Leaf Co. Ltd.	160
Cread & Co. Ltd.	36	Maubard Display Co. Ltd.	14	Universal Postal Frankers Ltd.	141
Crofton Ltd.	161	Midland Bank Ltd.	14	Universal Pulp Containers Ltd.	cover iv
Cromer Urban District Council	145	Multitone Electric Co. Ltd.	60	Van Der Velde (Office Equipment) Ltd.	151
Cushman & Denison Ltd.	120	National Cash Register Co. Ltd.	83	Vari-Typer Distributors (G.B.) Ltd.	52
Dexion Ltd.	8, 9	National Time Recorder Co. Ltd.	149	Venus Pencil Co. Ltd.	122
Dick, A. B., Co. of G.B. Ltd.	58	Noble Lowndes	7	Vulcan Boiler and General Insurance Co. Ltd.	115
Dictaphone Co. Ltd.	12	Pension Service, The		Wesley, Harold, & Co. Ltd.	126
Dicograph Telephones Ltd.	111	Odoni, Alfred A., & Co. Ltd.	131	Westwood, Joseph, & Co. Ltd.	131
Dubliner Condenser Co. (1925) Ltd.	cover iii	Office Equipment Distributors (B.T.L.) Ltd.	121, 140	Wheeler, H., & Co. Ltd.	164
De Pont, E. I., De Nemours & Co. (Inc.)	59	Offex Group of Companies (Fordigraph)	90	Williams & Williams Ltd.	41
Durham, H. H., Ltd.	161				
E.M.I. Ltd.	30				
Eagle Pencil Co.	126, 127				
Educational Supply Ass. Ltd.	120				

PITMAN

PITMAN'S BUSINESS MAN'S GUIDE

13th Edition. A new and revised edition of this useful work of reference. It forms an up-to-date compendium for every business man containing, as far as possible within one volume, full information on subjects likely to arise in a day's work. 20s. net.

CARTER'S ADVANCED ACCOUNTS

4th Edition. A comprehensive manual of book-keeping and accountancy for advanced students. A standard work on the subject. 16s. " . . . an admirable exposition of book-keeping and accounts." —*Cost Accountant*.

HIGHER CONTROL IN MANAGEMENT

By T. G. Rose, M.I.Mech.E., etc. 6th Edition. Here is a method of presenting the facts and figures of industrial and commercial undertakings so that they can be used for general management purposes. 30s. net.

JONES'S STUDIES IN PRACTICAL BANKING

4th Edition. Edited by J. Milnes Holden, LL.B., etc. 25s. net. " . . . a safe and authoritative guide on matters of banking, not only to bankers themselves but also to accountants and company officials and the business community as a whole . . ." —*The Accountant*.

Parker Street, Kingsway, London, W.C.2.



Overalls FOR ALL TRADES & PURPOSES

The "VOLE" Brand
RIGMEL SHRUNK

Write for PRICES and PATTERNS

- ★ BOILER SUITS
- ★ BIB & BRACE OVERALLS
- ★ APRONS, etc., for MEN & WOMEN
- ★ COATS, JACKETS

H. WHEELER & COMPANY LTD.
107 London Road, Plaistow, London, E.13

Phone: GRAngewood 4071 (5 lines)



WINGS
DAY
SEPT. 14th
GIVE FOR
THOSE WHO
GAVE

Have you ever felt like this?

The amp-eater strikes again!

George is alternating very rapidly between despondency and bewilderment. That slip of paper you see before him is his electricity bill. It is about 30% higher than it ought to be. In his heart George knows he has been very, very silly. He has been told over and over again that when electric motors and transformers are used on A.C. mains supply, without power factor correction, far more electricity is consumed than is actually required.

Before George blows a fuse and this advertisement disintegrates, write to the address below for a free copy of "I'm a dead loss" which tells you all about amp-eaters, power factor correction and quotes some very interesting 'before-and-after' stories.



DUBILIER

DUBILIER CONDENSER CO. (1925) LTD., DUCON WORKS, VICTORIA ROAD, NORTH ACTON, LONDON, W.3.
Telephone: ACorn 2241. Telegrams: Hivolcon Wesphone London.

DN 192

Container by

U.P.C.



UNIVERSAL PULP CONTAINERS LTD.
MILTON OF CAMPSIE BY GLASGOW

